UNIVERSITIES QUARTERLY

VOL. 3. No. 1. NOVEMBER, 1948

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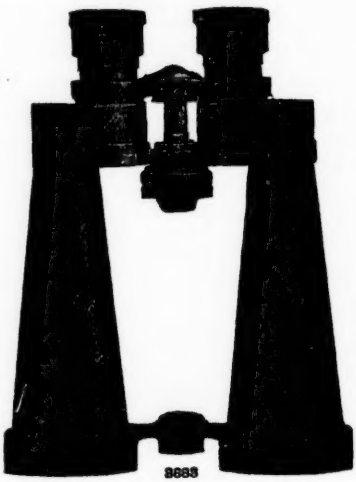

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UNIVERSITIES QUARTERLY

NOTES

The Universities Quarterly and University Problems

With this issue the *Universities Quarterly* enters on the third year of its existence. Only a small fraction of the questions which were listed in the prospectus issued in 1946 have so far been dealt with in these pages. Since the appearance of the first issue of the *Universities Quarterly* in November, 1946, interest in the problems of university education has become more widespread, and, if anything, a solution of some of the problems has become more complicated because of the economic situation. It is as true to-day as when the statement was first made in the prospectus that " the problems are infinite, and surely much hard, clear, prolonged thinking will be necessary if even a few of them are to be solved ". To that thinking it is hoped that the *Universities Quarterly* has made and will continue to make some stimulating contributions. It can hardly be claimed, however, that solutions have been found for even a few of the problems. At this stage it may perhaps be a more important contribution to define the problems clearly and provide a medium in which they can be analysed and discussed.

A most encouraging feature in the situation is the fact that the importance of university education for the nation's future has been recognised by the increase of Government funds for its support and by the broadening of the terms of reference of the University Grants Committee. Further evidence of the serious attention that is being devoted to the current problems is to be found in the activities of the Committee of Vice-Chancellors and Principals and the conferences which it has convened, and in the report of the Education Sub-Committee appointed by Nuffield College. To the " hard, clear, prolonged thinking " that is needed some contribution will have been made by the exchange of ideas at the Commonwealth and international Universities Conferences held this year and, it is to be hoped, by the report of President Truman's Commission on Higher Education, however different the American environmental conditions may be from the British.

The problems listed in the original prospectus still continue to be the crucial problems of to-day. They may in general be summarised as follows: What is the mission of a university? Are the lines of demarcation between a university and a technological college valid to-day? Do university students receive a balanced general education which gives them an understanding both of the arts and of the sciences and of the problems of modern society, and provides them with a broad foundation for the development of their own special interests? This would also include the question of the point at which specialisation should begin and of the relation of secondary to university education. Is it possible to provide for all students a course giving an overall synthesis, and what should be the nature of that course?

Recognising the importance of teaching and research and their inter-dependence is adequate attention being given to the problems of teaching in view of the larger number of students now attending the universities? Are sufficient funds being provided for research outside the natural sciences? If the number of students continues at or goes beyond the present figures, is the question of recruitment, preparation, and retention of staffs receiving adequate consideration? In addition to the number of students should an increase in the length of courses from three to four years or the more extensive organisation of post-graduate courses or an increase in the provisions for part-time students and of extra-mural courses take place? What effect will it have on the problem of teaching staffs?

On the administrative side changes in the number of students and new functions to be undertaken by the universities will affect the administrative organisation. If teaching staffs are to have time for research, should not more attention be devoted to the development of a more efficient and less time-consuming system of administration than that of committees? Should not more attention be given to broad questions of policy than to piecemeal changes and to the everyday details of faculty administration?

The one problem that seems to have attracted most attention is that of the number of students and the demands for entry. Can the question of numbers be determined in the light of the present size of the universities or should there be a survey of the national need of trained intelligence both in the older professions which require university education and in new occupations and professions for which university education may to-day be desirable? Does the use

of intelligence tests serve to provide adequate information about the special abilities of the potential number of students who might profit from university education? Do the records of students during their stay in the universities and on taking their degrees throw any light on the adequacy of present standards for entry?

This list of questions and problems is not exhaustive, but it seems to re-emphasise the original call for " hard, clear, prolonged thinking " the fruits of which will, it is hoped, furnish the content for the *Universities Quarterly* in the years ahead as in the years since it was launched.

British Association Meeting

There was little superficial resemblance between the speeches of Sir Henry Tizard and of Lord Samuel at the meeting of the British Association in September, but both were directly relevant to the problems of the universities. Sir Henry was particularly concerned with the application of science to industry and voiced his misgivings about the large expansion of scientific departments in the universities. While maintaining the importance of pure science he stressed the significance of applied science for increasing productivity and industrial efficiency. Were too many scientists remaining in the universities instead of entering industry to apply their knowledge to industrial problems? Were too many young scientists overcrowding university research departments, so that quality was being sacrificed to quantity? We already had a scientific knowledge of coal utilisation, for example, which if applied would benefit mankind over the next twenty years more than any new research into atomic power. The moral for this country was to concentrate energy and enterprise on the application of existing knowledge. The problem Sir Henry faced was the proper balance between the pursuit and the application of science, and it is one which is of great concern to the universities.

Lord Samuel discussed the role of science in society. He placed the blame for the misuse of science not on the scientists but on the philosophers and others who have failed to keep pace with the advance of science. The universities must accept a share of the blame with due humility, for they should give a lead to society not only in science. We doubt, however, whether it is useful to scold the non-scientists into efforts to emulate their successful scientific colleagues. Even if they do not skulk in ivory towers, their problems

are different and their methods of approach must be different. Scientific knowledge is cumulative. Each accredited discovery permanently advances it. The humanities on the other hand are concerned not only with advancing knowledge but with reinterpreting and revaluing human experience. It needs no new discovery, but the endorsement and extension of ancient ideas, to realise, for example, that atomic warfare is no good thing. An arts teacher is not out of date because he uses Plato or Shakespeare as texts for the study of man, as a scientist would be if he used Democritus or Harvey as authorities on modern science. The ancients are still valid teachers of the humanities. It might be claimed without undue paradox that it is the scientists who are neglecting the vital problems of to-day, for these if they are soluble are scientific problems, of psychology and the social sciences—and these sciences have up till very recently been grossly starved of the resources without which they cannot make their contribution to human welfare.

Specialisation in Honours Schools

Professor Graham Cannon, in his address to the Zoology section of the British Association, expressed some opinions on the teaching of his subject which are relevant to all honours schools. The undergraduate course is becoming more and more a congeries of studies in which students are expected to become familiar with the latest highly specialised research before they have mastered what are, from the university point of view, the fundamentals of their subject. To enable this to be attempted, the sixth form of schools are forced into increasingly advanced work which should rather be done in the first year at the university, preferably, Professor Cannon thinks under the professor himself. The scholarship papers of Oxford and Cambridge are the main instrument in forcing this advanced work on the schools. Professor Cannon suggests that the remedy is not to extend university work down to the schools but to extend it upwards to post-graduate studies. School syllabuses should be lightened, undergraduate courses should be less specialised, and selected students should go on to specialise in post-graduate courses.

Professor Cannon has pointed a way of escape from a situation in which both sixth forms and honours schools are in danger of giving a bad education because they are undertaking increasingly impossible tasks.

Specialisation and Selection

A very different point of view on specialisation and selection was taken at another session by Mr. C. R. Morris, Vice-Chancellor of Leeds University, and until recently headmaster of King Edward's School, Birmingham. He defended specialisation in the sixth form on the ground that it was in line with the pupils' own natural interests. Two-thirds of sixth form time should be devoted to specialist study. If the universities, in devising their entrance requirements within the framework of the new General Certificate of Education, insisted on widening the range of subjects to be studied in the sixth form, they would cause a serious lowering of educational standards. The schools should be trusted to see that general education was continued without examination. He was supported by Sir Henry Tizard. Mr. J. O. Roach, a member of the Civil Service Selection Board, spoke of the poor quality of some state scholars who had been selected by the existing scholarship examinations. The session threw little light on the problems of selection. The fact is that we have little real evidence about the efficiency of our present methods, and that only investigation and experiment can show whether they can be improved and if so how. The experiment sponsored by the Medical Research Council and described below is the most welcome.

The Selection of Medical Students

The demand for entry to the universities is now much greater than the number of available places. To be admitted it is not enough to have the minimum qualifications which the School and Higher School Certificates vouch for. Universities supplement the evidence from examinations by a great deal of interviewing of applicants and by other methods. This interviewing is taking up very much of the time of university staffs. If it were certain that the present selection procedures are reasonably successful in choosing the best students the expenditure of the time might be worth while. But there is little evidence available either way, and many university teachers have little confidence in the present methods. It is curious that the selection of entrants to secondary schools has been so much investigated while so little scientific study has been made of university entrants. The embarking of a student on a university course is a big investment by the student, the university and society as a whole, and the risks of wastage, which can never be altogether eliminated, should be reduced as far as is practicable.

The difficulties of selection are nowhere more acute than in the medical faculties. This is apparently due not only to the post-war bulge, but to an increased interest in medical careers and the greater provision of the financial aid of grants and scholarships. The ratio between the number of applicants and the number of available places varies for different medical schools between 20 to 1 and 2½ to 1. The resulting problems of selection were the subject of five interesting articles in *The Lancet* of August 28th. All faculties will be interested in the long-term investigation of selection which has been started under the aegis of the Medical Research Council by a committee of which Professor Sir Frederic Bartlett is chairman and Dr. A. D. Harris secretary. An intelligence test and various other tests have been given to first-year students at several medical schools. The investigators will try to get to know the students included in the follow-up by a series of informal biographical interviews of an hour each during the first year of training. At each stage of the course assessments will be obtained from teachers and others in contact with the students, and the results of professional or college examinations will also be used. The careers of these guinea-pig students, who are co-operating voluntarily, will not of course be affected by the experimental tests. It is intended that the follow-up should not stop short at qualification, though it is realised that it will be more difficult to secure satisfactory assessments of the proficiency of the students when they become doctors. It is obvious that the results of the investigation will not be fully available for a good many years, and it would be worth investigating the use of those aptitude tests for medical students adopted by American Schools of Medicine for twenty years, either alone or in combination with other methods of selection. Meanwhile, we hope that other faculties and university departments will undertake similar investigations of their problem of selection.

Scientific Manpower

Since the publication of the Barlow Report (Cmd. 6824) attention has been focussed on increasing the numbers of scientists and technologists, and the universities have made great efforts to meet the demands put upon them to double their numbers. The Advisory Council on Scientific Policy in its first annual report published in July—just over two years after the Barlow Report—is the first official body to assess the results of the policy laid down by the Barlow

Committee. It did so by investigating three primary questions:—

(i) how many scientists and technologists are already available ;

(ii) whether the prospective supply of scientists and technologists in the coming decade is likely to meet the prospective demand ;

(iii) if not, what further steps should be taken to increase output.

To provide the answer to the first question the Council sponsored a special investigation which was conducted by the Ministry of Labour. A questionnaire was sent to all scientists in the country ; the replies are now being analysed, and are expected to provide a very useful picture of the manpower available covering age, distribution, qualifications and experience. The Ministry of Labour are also carrying out more detailed investigations in particular fields.

On the side of supply the Council appear to have done little more than endorse the Barlow Committee estimates, and are satisfied that as the numbers of pure scientists at the universities have doubled the supply will therefore be equal to the demands made upon it. They are, however, far from satisfied about the supply of well-trained technologists and engineers, who are in even more urgent demand than the pure scientists, and they therefore attach special importance to the new sub-committee of the University Grants Committee on technology to which we refer in another note. The Council is indeed disappointingly negative on this subject, reserving whatever it has to say about higher technological education and the Percy Report to a separate paper.

In collecting and analysing the replies from the scientists to whom the questionnaire was sent the Ministry of Labour has a first-class opportunity of contributing to a better knowledge about the prospects and pitfalls of a scientific career. If properly examined the replies ought to reveal when and how the scientist in industry turns to management, how much exchange takes place between academic and industrial research workers, what salaries are earned in different branches of science, how many graduate scientists abandon all contacts with science and how many continue to improve their qualifications. It is to be hoped that the Ministry will not neglect its opportunities.

It should also be noted here that the Nuffield Report on " The

Problem Facing British Universites" (see p. 506) contains a valuable summary of the various estimates which have been made of the intake of graduates into the professions which covers medicine, dentistry, science, engineering and other technical professions.

Technical Education and Research

The University Grants Committee has set up a sub-committee to advise them on matters concerning technological education and research in the universities and to maintain liaison with the National Advisory Council on Education for Industry and Commerce. Dr. A. E. Trueman is to be chairman and the members are drawn from the universities and industry. The establishment of special sub-committees on different branches of university work is a welcome sign of increasing activity and initiative by the U.G.C.

The problems this new sub-committee will have to consider are important and difficult. On the one hand there is the question, left unresolved by the Percy Committee, of the division of responsibilities between the universities and the technical colleges. On the other hand there is the problem of distributing the insufficient available resources economically among the universities. At what centres, for example, should research in the various branches of engineering be developed? Can the scattered schools of mining be advantageously concentrated? Should more universities offer training in textile technology, or should the technical colleges undertake expansion in this field? Could Oxford and Cambridge do more teaching and research in technology and would this improve its quality and prestige? The new sub-committee will be addressing itself to questions of great moment to the universities and to the economic prosperity of the country.

The Universities Film Council

Encouraged by the work of the Cambridge University Film Council, the British Film Institute and the Scientific Film Association in 1947 convened a conference to consider the place of the film in the university. Universities, university colleges and technical colleges were represented and the Universities Film Council was instituted.

Most of the universities and university colleges of Great Britain are now members of the Council, on which technical colleges are also represented. In addition there is provision for associate membership through which it is hoped to develop relations with

other bodies such as research associations, learned societies, cultural organisations and the Services.

The purposes of the Council are to co-ordinate and develop the use of the film and related materials in the universities and institutions of university standard in the British Isles for the purposes of university teaching and research, and in particular to collect and disseminate information and to promote the production and distribution of films suitable for the above purposes. It is hoped to co-operate with universities and similar bodies in other countries.

The Council's first business was to deal with a number of administrative problems. It is now turning to the compilation of a catalogue and the enlarging of the channels of distribution, and to the collection and exchange of information about films already made, about projected films, and about films specially needed by universities. A film production school is planned as it appears that the needs of the universities will be met only when they can play a part in production. Technical advice on apparatus will be available to members. Research into visual education at the university level will be encouraged.

A good foundation for this pioneer work has been laid and it has stimulated activity among its members. Given sufficient financial support the Council will be able to make a valuable contribution to university work. Mr. G. Kitson Clark of Trinity College, Cambridge, is chairman of the Council, and Mr. T. L. Green of the University of Manchester is the honorary secretary.

We should like now to see the problems of broadcasting in university education being considered in a corresponding way.

Correction

In the August, 1948, number of the *Universities Quarterly* (pp. 321 and 336), a figure of £3,000 was quoted as the cost of a three-year course for a student at Cambridge University. This was an ambiguous statement, as it might have been taken only to include fees paid by parents or scholarships received by students. We have been asked by the Registrary of the University to make it clear that the costs we were considering included also " the heavy additional expenditure met by the university and the colleges out of endowments, the government grants and other sources of income. Even so, the figure of £3,000 is a very substantial overestimate." We much regret this miscalculation.

HIGHER EDUCATION IN THE UNITED STATES—A SYMPOSIUM

I. INTRODUCTION

by I. L. Kandel

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Education in the United States, like education in all other countries, reflects the cultural foundations of national life. Unlike education elsewhere, however, American education has always sought to respond to the changing needs and demands of society. Soon after the establishment of the republic attention was directed to the development of a system of education " adapted to the genius of the republic." Such a system was to be universal and republican instead of aristocratic and monarchical as in the European countries. It was to be useful rather than ornamental, that is, it was to meet the practical needs of citizens living in a new environment whose unlimited possibilities were still to be explored and developed. From the widespread discussions which took place in the last decade of the eighteenth century there was developed a strong faith in education and in the ideal of providing equality of educational opportunity for all.

An educational system founded on these principles, according to Benjamin Rush, one of the founders of American medical education, " would greatly increase the number of students in our colleges, and thereby extend the benefits of education throughout every part of our country." Further, he wrote, " the excellency of knowledge would then be obvious to everybody, because it would be constantly applicable to some of the necessary and useful purposes of life, and particularly to the security and order of wise and just government."

The aims of American education, first defined before 1800, have persisted down to the present, as may be illustrated by the following statement on " The Social Rôle of Higher Education" in the Report of the President's Commission on Higher Education (Vol. I, p. 101) :— " American colleges and universities must envision a much larger rôle for higher education in national life. They can no longer consider themselves merely the instrument for producing an intellectual élite ; they must become the means by which every citizen, youth, and adult is enabled and encouraged to carry his education, formal and informal, as far as his native capacities permit."

The widespread misunderstanding about American higher education which prevails abroad has been due in part to failure to consider its social rôle in national life, and in part to a certain tendency to evaluate it by the standards of systems in which higher education has hitherto been the privilege of the few or for the selection of an élite. Because he realised the basic differences in aims in England and the United States J. A. Spender was able, in "Through English Eyes," to present a juster estimate of American education than most observers, when he wrote; "A new American university regards it as its first task to go out into the highways and hedges and compel them to come in. In this initial stage its feast must be spread to tempt the appetite; and it follows the universal habit in this business country of discovering what the public wants and giving it without stint or shame. Very unlike Oxford and Cambridge no doubt, but it is absurd to compare the breaking of ground in a new country with the traditional life of those ancient institutions. Even they are finding that they have to compromise with new ways, and the new country inevitably starts with them."

It is unfortunate that so many readers, who gained their impressions of American higher education from Flexner's criticisms in his "Universities, American, English, German," failed to note his tribute to it which would have prevented them from taking the part for the whole. "A half-century ago," wrote Flexner in the same book, "the opportunities for advanced or critical thinking were very scarce and very limited. The change since that day has been amazing, immensely to the credit of a people that within a few generations has had to subdue a continent, create a social and political order, maintain its unity, and invent educational, philanthropic, sanitary, and other agencies capable of functioning at all. Higher opportunities have within this brief period become abundant —less abundant, I think, than external appearances frequently indicate, yet abundant in almost every direction—in the older disciplines, in the newer, in the professions and in state-supported as well as in endowed universities. Sums of which no one could then have dreamed have been assembled; buildings, apparatus, books have been provided. The country cannot, of course, dispense with Europe; but in the realms of higher education America has become in certain fields a country with which Europe cannot any longer dispense either. I shall go into details as I proceed. But this categorical statement I make now at the outset, in order that the

reader may know that, however severely I reprobate many of the doings of our universities, I do full justice to their solid achievements."

Dual Function of Higher Education

It is obvious from Flexner's statement that the picture of American higher education must be viewed as a whole. It seeks, on the one hand, to provide opportunities for education beyond the high school for as many students as prove themselves qualified. It aims at the same time at providing a variety of courses that will meet the varied range of interests due to the increasing number of students. This variety includes both those subjects associated with the academic tradition as well as courses of a more practical nature, which are found in other countries but are not given in institutions of higher education.

The dual function of higher education, which includes two-year junior colleges, four-year liberal arts colleges, professional schools, and universities is not something that has been recently introduced. That it was early recognised that education should meet the practical needs of American society has already been mentioned. The conflict between the academic and the practical began a century ago. In 1850 President Francis Wayland, in his " Report to the Corporation of Brown University on Changes in the System of Education," recommended that the work of the university should be adapted " to the wants of the community " by the introduction of courses in the science of teaching, principles of agriculture, and the application of science to the arts. In the same year Henry Tappan, President of the University of Michigan, in a pamphlet on " University Education " urged that both the academic and the practical should be cultivated. " Now when it is asked," he wrote, " what we need in the way of education ? we may reply either that we need to fit men well for professional life and for the general business of the world in the mechanical arts, in agriculture and commerce ; or that we need to cultivate the human mind according to the philosophical or ideal conception ; or, we might reply that we need all in due order and proportion. The last reply, unquestionably, would be the correct one."

To meet the practical demands engineering schools had already begun to be established earlier, the Rensselaer Polytechnic Institute in Troy, N.Y., being the first to be opened in 1824. Later the

Morrill Act of 1862 provided federal aid for the establishment of agricultural and mechanic arts colleges, whose object was to be " without excluding other scientific and classical studies . . . to teach such branches of learning as are related to agriculture and the mechanical arts." " Such an education would enable farmers to raise two blades of grass instead of one, would promote cheap scientific education, would enable railroads to pay dividends and the people to bear the enormous cost of national government, and increase the loveliness of the American landscape." The creation of these colleges, which later became state universities, was a definite recognition of the principle that the function of education was to contribute to the progress and improvement of national welfare, a principle which many years later was implied in the phrase that " Education Brings Social Dividends."

The issues raised by Tappan and Wayland on how to meet the needs of students and to attract them to the colleges in larger numbers was answered by the introduction at Harvard College under the influence of President Charles W. Eliot of the elective system. The philosophical and psychological arguments that students would show greater interest and make better records by choosing subjects themselves were probably rationalisations after the event. The elective system, described by Professor S. E. Morison, the Harvard historian and historian of Harvard, as " the greatest crime of the century against American youth, depriving him of his classical heritage," was adopted throughout the country. The elective system, despite the confusion that it created about the aims of the liberal arts college, did lead to an increase in enrolments.

More influential, perhaps, as factors in the expansion of higher education were the rapid development of industry through the applications of science, urban concentration, and the increasing wealth of the country. Appropriations of funds to state universities were increased and donations to private institutions came in larger amounts. In both cases university authorities could point to the contributions of the graduates to the advancement of the material and spiritual welfare of the nation. Industrialists began to realise the value of scientific research just as farmers had gradually begun to appreciate the value of the contributions that came from the agricultural colleges and experimental stations.

At the same time the development in federal, state, and local governments led to the addition of new fields of study, as did the

pressure of new social problems. The colleges and universities expanded the number of courses to meet the new demands. The expansion was made possible by the elective system with the result that the traditional concept of a liberal education gradually lost its meaning in the face of demands for specialised preparation for professional and other careers.

The Training of Scholars

Nevertheless the claims of scholarship were not ignored. After the middle of the nineteenth century, largely under the influence of scholars who had studied in German universities, a movement began to provide opportunities for advanced study beyond the college. In 1876 the creation of Johns Hopkins University introduced a new direction in higher education. Under the guidance of its first President, Daniel Coit Gilman, this University was founded " to enlarge the resources of American scholarship " in " a private endowment free from ecclesiastical and political control, where from the beginning the old and the new, the humanities and the sciences, theory and practice, could be generously promoted." Opportunities now began to be available at Johns Hopkins University and elsewhere for the training of those who would advance scholarship, engage in research, and become teachers in colleges and universities.

Hence in estimating the contributions of higher education to American society the colleges and universities must be taken as a whole. The method of selection is a longer process in the United States than in other countries. Whereas the selection of the intellectually able in other countries takes place at the end of the secondary education course, in the United States the selection is from those who have graduated from college. The large majority of college graduates are distributed in all types of occupations. For there is this important difference between the United States and other countries that those who have enjoyed the privilege of a college education do regard themselves as a class entitled to a particular niche in the economic organisation of the nation. The smaller number of graduates continue their special preparation in the universities for the professions or for careers that require further study in the various fields of scholarship and research. It is from the graduate students that the teachers in colleges and universities and research workers are recruited. The most serious criticism that is now levelled against the more advanced stages of graduate study is

that it turns out well-trained but somewhat narrow specialists. The issue that is being generally discussed is how to break down the narrowness of specialisation and how to develop a broader understanding of the relations between various branches of the same discipline.

General Education

Reference has been made earlier to the effect of the elective system on the tradition of a liberal education. The most serious result was the tendency to premature specialisation through the election of a narrow course of studies. This situation was further aggravated by the trend in favour of the sciences and technology. Shortly before the outbreak of World War II a movement was begun by the American Council of Learned Societies to preserve and promote the study of the humanities. Gradually the movement was broadened to a consideration of the meaning of a liberal education in modern society. Regional and national conferences were held and many colleges and universities appointed committees to recommend a curriculum appropriate for all students, irrespective of their future occupations.

A vast amount of literature was published on the subject during the war years. The most widely known of these publications is the Harvard Committee's report on "General Education in a Free Society," in which it was recommended that all students should have a general education in the humanities, social sciences, and natural sciences. This recommendation represented the general consensus of opinion, reached independently by similar committees in other institutions. The reorganisation proposed had in fact already been put into practice for the undergraduates at Columbia University soon after World War I.

The success of the movement to provide a balanced education before specialisation begins will depend upon a change in the attitude of college teachers. One result of a requirement that college teachers must hold the Ph.D. to be appointed to professorial rank and of the practice of promotion on the basis of research and publication has been that college teachers have tended to become narrow specialists. The new programmes of general education may exercise an important influence on graduate schools, which have in the past, largely on the model of German universities, over-emphasised narrow specialisation. This influence as much as the

demands for breadth of scholarship has led to a movement to encourage inter-disciplinary studies in the graduate schools. It is now beginning to be realised that college teachers must bear in mind more than they have done in the past that they are not teaching subjects or training future research workers or specialists, but that they are educating men and women to take their place as intelligent citizens of the nation.

Standards

In a country of the size of the United States with around 1,700 institutions of higher education one of the difficult problems is the maintenance and assessment of standards. The practice of appointing external examiners has been adopted by only one institution, Swarthmore College. A variety of methods of defining standards has, however, been developed. There have been created many organisations, generally regional in scope, which "accredit" colleges which meet certain standards of staffing and equipment. The leading graduate schools of the country do not by any means recognise the equivalence of the degrees granted by all colleges ; they are guided largely by the list of accredited institutions in admitting students. In addition to the accrediting system objective tests have begun to be widely used, the best known of which is the Graduate Records Examination. Finally, there are numerous organisations which provide leadership in the discussion of problems of higher education common to all institutions.

Conclusion

American institutions of higher education have always been conscious of their social rôle and have been responsive to the needs of American society. The last half-century has seen a remarkable development in the advancement of scholarship and research in every area of learning, ancient and modern. The quality and standards of American scholarship are beginning to be appreciated everywhere. The American college, which is unique in character, is increasingly becoming an institution whose aim is to give a broad general education which will enable its students to have some understanding of the world in which they live and to have a cultural foundation which will enrich their lives and, if they so choose, will provide a good preparation for further studies.

II. THE PATTERN OF HIGHER EDUCATION

By Paul Klapper

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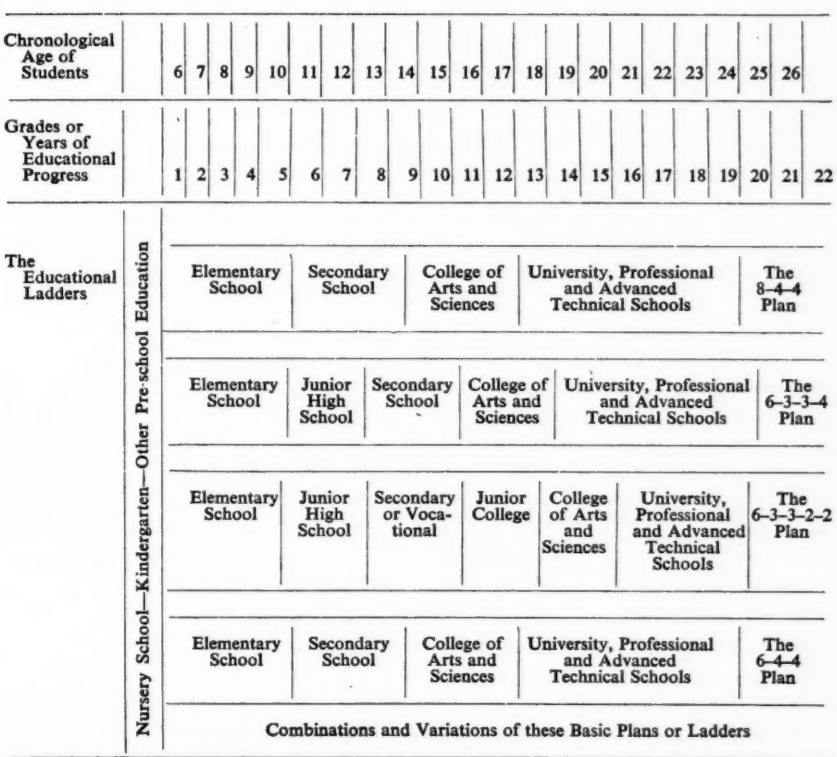
The component units of higher education in the United States developed as social need became apparent or acute, rarely in anticipation of it. A pattern emerged, unplanned, to be sure, and with a complexity more seeming than real.

It is important to fix each educational unit of the scheme of American education in its relative chronological place because its scope, its nature, and its eligibility for grants-in-aid are often determined by that place. The various arrangements of the units in the plan of educational progression are presented diagrammatically:

Variations in the Educational Ladder in the United States


Chronological Age of Students
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
Grades or Years of Educational Progress
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
The Educational Ladders
Nursery School—Kindergarten—Other Pre-school Education
Elementary School
Secondary School
College of Arts and Sciences
University, Professional and Advanced Technical Schools
The 8–4–4 Plan
Elementary School
Junior High School
Secondary School
College of Arts and Sciences
University, Professional and Advanced Technical Schools
The 6–3–3–4 Plan
Elementary School
Junior High School
Secondary or Vocational
Junior College
College of Arts and Sciences
University, Professional and Advanced Technical Schools
The 6–3–3–2–2 Plan
Elementary School
Secondary School
College of Arts and Sciences
University, Professional and Advanced Technical Schools
The 6–4–4 Plan
Combinations and Variations of these Basic Plans or Ladders

Structure of Higher Education

The units in post-secondary education are five: the Junior or Community College ; the College of Arts and Sciences ; Teachers' Colleges ; the Universities and Professional Schools ; the Proprietary Schools (private vocational schools). These institutions exercise increasing influence as is evidenced in Table I. As we ascend the educational ladder, we find an accelerated rate of growth.

TABLE I

Percentage of Youth Enrolled in School by Years of Age

Year	Elementary School Age 6–13		Secondary School* Age 14–17		College and University Higher Education* Age 18–24	
		% +		% +		% +
1920	87·0	—	61·6	—	8·9	—
1930	91·6	—	73·1	—	16·1	—
1940† ..	92·0	—	79·3	—	13·3	—
1946† ..	97·7	—	80·1	—	13·1	—
1947	92·8	6·3	81·2	24·1	15·2	70·8

* General, not absolute, correspondence of age to school level.
† Based on sample survey and subject to sampling variability.

One sixth of American youth is now in institutions of post-secondary education. The number is expected to increase by 50 per cent. by the end of the next decade because of a variety of persistent circumstances: the growing technology in industry ; the new demands of present-day living ; the unfriendly attitude of industry and labour unions towards the employment of youth during the two years following graduation from secondary school ; the popularisation of higher education through Federal aid to veterans ; the awakening of the backward States to their obligation to youth ; and, finally, the acute shortage of personnel in sub-professional callings.

The 1,700 institutions of higher education in the United States are distributed as follows: 45 per cent. or 765 are colleges or

universities ; 16 per cent. or 272 are separately maintained professional schools; 14 per cent. or 238 are teacher training schools or colleges ; 25 per cent. or 428 are junior or community colleges. Of these, 1,700 institutions, enrolling over 2½ million students in 1947, 33.2 per cent. or 563 are publicly controlled and supported, in whole or part, by public funds ; 26.1 per cent. or 445 are privately controlled by self-perpetuating boards ; and 40.7 per cent. or 692 are administrated directly or indirectly by religious orders or by denominational boards of trustees.

The Institutions in Higher Education

The Junior College or *Community College*, as it is gradually beginning to be called, is generally a two-year terminal institution that makes a local rather than a national appeal. Its curriculum is a mixture of general education and vocational activities, with one or the other predominating according to local needs or predilections. The 648 institutions listed in 1947 had an enrolment of 400,000, an increase of almost 800 per cent. in 20 years. Each of the 315 publicly supported junior colleges had an average enrolment of 687 in 1945–1946 and a total of 75 per cent. of all students in 1947. Of the 333 privately controlled institutions each had an average enrolment of 235 and a total of 25 per cent. of all the students for the corresponding year.

The junior college curriculum is not necessarily terminal for young people of proved ability. It is, however, a unit in itself for those whose lack of interest or ability would make further formal education unprofitable. The strong recommendations of the President's Commission on Higher Education and of the Temporary Commission on the Need of a State University in New York are well designed to accelerate the growth of these two-year institutions.

Some state universities are seriously thinking of dropping their 13th and 14th years and relying on community colleges to give this preparation for further study. Since the major items of student expense in post-secondary education are board, room, and travel rather than tuition fees, the development of local community colleges is further stimulated. The universities, state and public, are, however, eager to continue the four-year college course for many reasons—geographical considerations may make the university the accessible location for a college ; the resources of the university enable it to give more effective preparation for its professional and

sub-professional curricula ; the ablest students, despite their economic disabilities, should begin their studies in institutions that offer full programmes of higher education and should be encouraged to rely on scholarships, adequate in number and stipend ; by retaining its 13th and 14th years the university is better able to exercise the much needed educational leadership for the relatively new community colleges.

The College of Arts and Sciences enjoys the high esteem and affection of the American public. It is distinctly American in conception and spirit. It has an enrolment of about 2 million students in 587 institutions which either are under non-denominational public or private control or have denominational affiliations. While many such colleges are part of university organisations, the majority are independent four-year institutions, eclectic in purpose: to prepare for richer living, for participating citizenship, for sub-professional callings, and for admission to graduate and professional schools.

College curricula are undergoing significant changes to meet a variety of needs. To guard against narrowness and premature specialisation large units of study in general education are being developed in humanities, social science, and fundamentals of physical science ; to guard against over-inclusiveness and its accompanying shallowness stress is laid on the methodology in each of the major disciplines and on concentration on a single area of knowledge; to guard against excessive uniformity students are required to elect studies related to their intellectual interests or vocational expectations. To insure advancement according to individual ability, the liberal arts college has devised " honours courses " for the ablest students, readings under tutorial guidance, special seminars, comprehensive examinations in addition to the usual semester examinations, independent readings during summer, and the completion of special projects with minimum faculty supervision.

In general there are three types of college organisation, all concerned with a broad non-vocational education: (*a*) Grades 13 through 16 ; students aged 20 are usually in the middle of the course ; (*b*) Grades 11 through 14, students aged 20 are at the end of the course ; (*c*) Grades 13 and 14, students aged 20 are at the end of the course. To enable a promising student to begin his professional studies at an earlier age, many colleges permit him to substitute

the first year in a professional school for the fourth college year. To meet the demands of certain vocations for an additional year of study —teaching or social service—colleges are initiating a five-year curriculum in which the fifth year is integrated with the regular four-year course and becomes the final stage in a progressive programme. By these forms of flexibility in organisation, the American college serves its increasing clientèle and helps develop leadership for a free society.

Of the 204 *Teachers Colleges*, 167 or 81.8 per cent. are publicly supported and controlled. All offer general curricula as well as preparation for teaching. Almost all grant baccalaureate degrees ; a few give master's and doctor's degrees. The leading schools or colleges of education are affiliated with large universities through which they supplement their own human and material resources.

The old normal schools began to give way to the four-year teachers colleges as early as 1900 and the movement was quickened appreciably with the recognition of the need for enhancing the professional status of teachers. In 1947 teachers colleges enrolled about 150,000 students, of whom 78,000 were men. The actual number preparing to teach is decidedly larger because many prospective teachers qualify for certification through the colleges of arts and sciences or the graduate schools of the universities—institutions whose degrees, generally speaking, enjoy greater academic prestige.

The Universities of the United States were cast in the German mould and are still struggling to free themselves from that pattern. The scope of activities of a university is presented below in tabular form:—

A University Consists of

1. *A College of Arts and Sciences*, similar to those discussed.	2. *A Cluster of Professional Schools*		3. *A Graduate School*
	The Schools	*The Grades included*	
	Medicine ..	XVII—XX	Its primary interest is in furthering scholarship through research and the creative techniques. Degrees conferred: Ph.d. and its equivalents. General characteristics: intensive specialised scholarship ; preparation of personnel for higher education.
	Pharmacology ..	XIII—XVI	
	Divinity	XVII—XX	
	Law, either	XVII—XIX	
	or	XV—XVII	
	Engineering, either	XVII—XVIII	
	or	XIII—XVII	

Each division may offer programmes of extension courses and adult education.

Professional and technical schools may exist without university affiliations but the vast majority of them are member units in the structure just presented. The largest universities are publicly supported but the private universities are also familiar with the problems resulting from large numbers as may be inferred from Table II.

TABLE II

1947 *Enrolment and Mode of Support of Representative Universities*

The University	Mode of Support	Enrolment*			
		Full-Time Veterans	Full-Time Non-Veterans	Total Resident Students	Total No. of Teachers
California University ..	Public	21,003	21,634	54,165	3,235
University of Chicago ..	Private	4,443	4,072	12,417	745†
Colleges of the City of New York	Public	9,638	19,310	66,002	3,172
Columbia University ..	Private	10,919	12,192	42,627	4,297
Cornell University ..	Private	5,311	4,930	11,826	2,038
Harvard University ..	Private	8,628	3,975	12,603	2,220
University of Illinois ..	Public	15,691	10,806	32,391	2,886
University of Michigan ..	Public	11,735	8,831	26,832	1,368
University of Minnesota..	Public	16,636	11,276	37,862	‡
Princeton University ..	Private	1,915	1,540	3,455	‡
University of Wisconsin ..	Public	13,342	9,886	31,436	1,810
Yale University	Private	5,181	3,680	9,024	1,299

* Some of the figures are close approximations and while substantially correct must not be used for such derived relations and inferences as teacher-student ratio.
† Full-time staff only.
‡ Not given.

The scope of university responsibility is appreciably wider than has been indicated. These institutions are expected to set up special services such as educational and psychological clinics, bureaux of applied social research, divisions to supply trained personnel for public and private activities, clinics for the study of techniques of media of mass communication, divisions of extension and corres-

TABLE III

Earned degrees granted by institutions of higher education in continental United States by institutional control, geographic area, and sex: 1944*

	Degrees granted by all institutions			Degrees granted by publically controlled institutions											
				Total degrees			Bachelor's and first professional			Master's and second professional			Doctor's and third professional		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Continental United States	141,594	63,467	78,127	69,121	27,892	41,229	62,752	24,580	38,172	5,417	2,497	2,920	952	815	137
				Degrees granted by privately controlled institutions											
				72,473	35,575	36,898	63,123	31,296	31,827	7,997	3,214	4,833	1,353	1,065	288
Total	141,594	63,467	78,127	141,594	63,467	78,127	125,875	55,876	69,999	13,414	5,711	7,753	2,305	1,880	425

* Compiled from Table 30, President's Commission on Higher Education, Vol. VI, pp. 34–5.

pondence teaching—in a word, to quicken the process of living through education. The full influence of the universities in the United States is still to be appraised. Table III indicates their significant place to-day.

Research in Higher Education

While the university is the academic centre of research, the college of arts and sciences also strives to keep alive productive scholarship by placing primary emphasis on publications in appraising its faculty members. Academic research programmes have run into many difficulties: the mounting cost of personnel and equipment, especially in the physical sciences ; the loss of personnel to industry that pays well and often supplies superior laboratory equipment ; the depleted personnel attributable to war conditions. University leaders, alive to the need of ample resources for research, are pleading for public grants from national and state treasuries and from industry as well as from private philanthropy. Government and industry are requesting universities to undertake, under special grants for personnel service and equipment, inquiries into specific problems in many areas of human endeavour. Nevertheless, so much research is being carried on that the professional journals in all fields are unable to accept for publication all the studies of unquestioned merit which are submitted.

Administration of Higher Education

The external control of higher education in the United States is in many respects unique. The commonly accepted principle of administration is that higher education, especially in publicly supported institutions, must be sensitive to changing needs of a democratic society and must, therefore, welcome socially purposeful change. Despite the general acceptance of this tenet, organisational mechanisms tend to lag behind social need. And yet, most institutions are legally self-determining with authority limited only by the specific provisions of their charters.

Because the Federal Constitution does not mention it, education became one of the concerns " reserved to the States or the people." There is no national system of external control of education and each state, in theory at least, supervises education within its borders. In most states there is no authoritative system for controlling higher education. All states, however, exercise leadership which is naturally of varying degrees of effectiveness.

But higher education is not without system nor is the Federal Government without active interest in it. In the past, the government made generous grants of land and money to the states to encourage them to develop systems of higher education. But it has consistently refrained from exercising any more control than seemed necessary to "insure the accomplishment of the special purpose behind the appropriation." During the fiscal year 1947, it spent 1,772 million dollars on post-secondary school education. A break-down reveals that 35 millions went to grants-in-aid ; 74 millions to direct aid ; 84 millions to contract projects ; 422 millions to housing ; 1,157 millions to direct aid to individuals.

There are three types of external control of higher education by the states: (1) In New York and four other states there is unified state control of all educational institutions, public and private, from elementary school through the universities. (2) Usually the control of higher education is vested in a board, the Regents, which is dissociated from the state department of education and which operates through a chief executive officer known as a chancellor. (3) Some states have a separate board of trustees for each institution, with a coordinating committee composed of representatives from each board. Privately supported universities enjoy a high degree of autonomy, each administered by its own self-perpetuating governing board.

The Influence of Voluntary Professional Organisations

Over the years there have developed supplementary controls of higher education through voluntary organisations which influence curricula and standards of quality by serving as accrediting agencies. These extra-legal organisations, of which there were 366 in 1945–1946, supported by individual or institutional membership and operating nationally or regionally or within a specific area of knowledge, exercise the functions of a ministry of education. Their decisions, respected as if legal, are reached in terms of fully publicised criteria, *i.e.*, the number of full-time professors, the ratio of teachers to students, the nature of laboratory and library facilities, and the character of the endowment. An approved medical school usually means one accredited by the American Medical Association, a private, professional organisation.

Despite the significant influence for good which these evaluating agencies have exercised, leaders in higher education are alive to their

dangers. They may promote excessive standardisation by forcing an institution to modify its own conception of education to meet the conditions prescribed by the accrediting body. The pattern of education for accreditation may be more concerned with its own specific purpose than with education for living. These agencies are not always free from the old guild purpose of limiting the numbers entering a given field. To guard against these dangers there are other voluntary organisations, operating on a national scale and free from professional provincialism. Among these are the American Council on Education, the Association of American Colleges, and the leading educational foundations.

The Problems Confronting Higher Education

A difficult present and an uncertain future are creating a host of challenging problems for higher education. Basic socio-economic changes dictate well-planned but far-reaching modifications in scope and standards. Unprecedented enrolments overtax its facilities and threaten to dilute its quality. Spiralling building and equipment costs force indefinite postponement of much-needed construction and replacements. The shortage of instructors and technical assistants is acute and without promise of early relief. Returns from investments are discouragingly small and capital funds are becoming woefully inadequate. Mounting day-by-day costs force an increase in tuition and dormitory fees and thus in turn increase economic disability. Higher education has never been in greater need of material resources and, infinitely more important, of wisdom, fortitude, and faith in its stabilising effect on a democratic society.

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III. THE ORGANISATION AND ADMINISTRATION OF COLLEGES AND UNIVERSITIES

By Francis J. Brown

Staff Associate, American Council on Education

The organisation and administration of colleges and universities in the United States can be understood only if it is recognised at the outset that there is no system of higher education which can be described definitively. There is no sharp line of distinction even in types of control and every generalisation could be refuted by the policy of some individual institutions. American higher education is characterised more by its variability than its uniformity, more by the local autonomy of each institution than by its organisation into a system.

Types of Higher Educational Institution

Basically, colleges and universities can be classified into three types: publicly controlled; privately controlled; and church-related. The first are supported largely from public funds either local, as in the case of municipal colleges, or state, with some assistance through regular appropriations from the Federal Government. The second receive a varying proportion of their support from private gifts and grants. The third likewise receive private funds, but are, by charter, officially related to a religious denomination and usually receive denominational funds.

These distinctions, while still important, are becoming less so with each passing year. All institutions, with the exception of a very few municipal colleges, New York City's four institutions being the outstanding exception, one state university, and a number of two-year junior colleges are receiving an increasing proportion of their operating costs from student fees. The percentage varies from zero to 100, but the average in 1947 was approximately 40 per cent. in public institutions, 75 per cent. in privately controlled and church-related colleges. Since 1930, and especially since 1940, publicly controlled institutions have increased their fees more rapidly than have those privately controlled. Thus the distinction between free and fee-paying institutions no longer exists except in degree.

The differentiation between public and private institutions in terms of support is also becoming of less consequence. Public institutions are receiving an increasing proportion of their income from private gifts—3 per cent. in 1920, 14 per cent. in 1947. Private institutions accepted Federal funds for contract services during World Word II and currently for the education of veterans, and an increasing number are receiving assistance from state sources.

While the Catholic institutions and a few others are retaining their close relationship with a religious denomination, the extent of church support is declining and many have revised their charters to become private rather than church-related.

Of the 1,688 colleges and universities listed in the 1947-48 United States Office of Education Directory, 548 are reported as public; 450 as private; and 690 as church-related.

Methods and Scope of Control

This rather extensive analysis of the basic types of control and the current shifting of the pattern is an essential factor in any discussion of the relationship of colleges and universities to their governing authority. As indicated, since publicly controlled institutions receive a considerable proportion of their funds from the municipality or state, the governing body of the political unit may exert a very real control through determining the amounts to be appropriated for specific budgetary items, including both operating expenses and capital outlay. The trend is, however, away from such detailed appropriation to lump sum grants or a definite per cent. of the total state revenue, thus decreasing legislative control of the institution.

All colleges and universities are chartered by the state in which they are located, but such charters seldom involve any control other than authorisation to grant degrees. In the professional fields, such as medicine and law, some control is exercised through state licensing of practitioners either by examination or by determination of approved schools. In states with strong departments of education the licensing even for teachers is based upon completion of prescribed courses.

The extent of state control of public institutions varies also in relation to the strength of the state government. In one state a single state board has considerable jurisdiction over all education at

all levels within the state ; in another the colleges have a state board independent of that which exercises jurisdiction over the elementary and secondary schools; in about half of the states each institution is wholly autonomous even in the presentation of its budget to the state legislature.

There appears to be a trend toward greater unification of education at the state level. Even those colleges which have competed for state funds are now co-operating in the preparation of a total budget for higher education within the state. But there is still a long way to go to carry out the recommendation of the President's Commission on Higher Education in the Report, *Higher Education for American Democracy*, published in 1948 for a unified State Department of Education in each state, working co-operatively with the voluntary state organisation, to plan the programme of higher education on a state-wide basis.

In addition to this relationship of public institutions to state government, both public and private colleges and universities are organising voluntarily on a state-wide basis. While institutions jealously guard their autonomy, there is a recognition that their common interests warrant the rapid development of voluntary organisations of all of the institutions within a state. Thus far, most of these voluntary state organisations meet once or twice a year to discuss common problems, but there is a growing tendency to have a continuing service through a central office with a full-time executive secretary. A state organisation may study such problems as: population trends; potential needs for special types of higher education within the state; and procedures for transfer of students.

Public Relations

Institutions of higher education, regardless of type of control, think of themselves as, and are in fact, serving the general public. This is true not only because of the heterogeneity of the student body of most colleges, but also because their graduates are trained in areas of national need. Consequently, each institution seeks to maintain good public relations through student publications, alumni magazines, attractive brochures—even catalogues (i.e., college and university calendars) are now being made more readable—and through co-operation with the local press, radio, and other media of communications. An increasing number of colleges have their own broadcasting stations.

Academic Freedom

As institutions guard their autonomy, so they seek also to preserve academic freedom. Federal appropriations, while limited to the activity for which they are granted, include in the legislative authorisation a definite statement prohibiting Federal interference or control. Such voluntary organisations as the regional accrediting associations, the American Association of University Professors, and others not only seek to prevent political interference on the state level but also investigate individual cases of dismissal of faculty members, if such dismissal appears to be based on an institutional policy of restricting academic freedom.

The President's Commission on Higher Education stated the accepted principle of academic freedom as follows: "A prime essential of a free society is academic freedom. Without it there can be no real profession of teaching or research. Pressure to bend or twist truth, to stay away from controversial issues about which the professor is competent to speak, and to avoid certain areas of inquiry, are not compatible with the ideal of professional integrity. A democratic society has a grave responsibility for maintaining free and untrammelled the avenues of communication and discussion. No society can long remain free when its educational institutions are not free; unfettered institutions are not possible without guarantees of academic freedom for the individual."

Adaptation to New Needs

There is one other variable in the organisation of higher education that must be included in even this brief summary. The unprecedented growth in enrolment following World War II brought a rapid expansion in the number of locations in which resident instruction of post-high-school level was made available. These were of three major types. A number of municipalities, some with and some without assistance from state funds, added the 13th and 14th grades to the public secondary school. The pre-war policy of some universities to establish resident extension centres, frequently fifty to a hundred miles from the "parent" institution, was rapidly expanded. Usually the instruction at such centres is limited to the 13th and 14th years and the students come to the regular campus for the last two years. A unique development, which represents the third type, was the utilisation of military establishments for college instruction, the institution jointly administered by several

colleges through a board which represents each of the co-operating institutions. It is currently proposed to establish permanent regional colleges jointly financed by several states.

The wide variety in relationships is not a weakness in the programme of higher education. It is, in fact, an element of strength for it provides wide latitude of adaptation to meet local and state needs. The only desirable change is that of accelerating the present trend toward more co-operative planning to prevent needless duplication and resulting competition and to avoid serious gaps in needed areas of service.

Administrative Organisation

While it is necessary to reiterate the fact of variability among institutions, it is possible to describe a more homogeneous pattern of internal organisation of colleges and universities than of their relationships with each other and with government.

The governing group on the institutional level is usually a board of trustees, although the terminology may vary, made up of lay citizens. It meets usually two or three times a year, although it may occasionally meet more frequently. The number of members varies from five or seven to more than fifty, but the trend is definitely toward a small board. One or more members are alumni of the institution. In publicly-controlled institutions, the board is frequently appointed by the State Governor, but the terms of office of board members are sufficiently long and staggered to prevent, in most cases, political interference through the power of appointment. Institutions vigorously resist such political control and the voluntary organisations previously mentioned are alert to bring pressure to bear when such control is exercised.

The usual functions of the board of trustees are: to select the president or chief administrative officer of the institution; to pass upon major policies referred to it by the president; to endorse his appointments; and to approve the budget. Sometimes a board has special committees that assume administrative responsibilities, but good administration entails a sense of mutual confidence between the board and the administrator which brooks no interference on the part of the board with the details of administration. When a board is not satisfied with the administration, it is usual for it to procure a new administrator rather than to take over administrative functions. When the latter is done, which is only very rarely, it

almost always leads to a rapid decline in the prestige and service of the institution.

Within the institution the chief administrative officer is the President. A few universities use the title of Chancellor rather than President. This is especially true when several public institutions in the state are organised under a single administrative head, in which case the administrative officer of the branch institutions is called President. In one state the titles are reversed. The extent and type of organisation below the chief administrative officer varies with the size of the institution. Universities, a term usually applied to institutions that are made up of a liberal arts college and one or more professional schools, have a dean in charge of each college or school. These frequently make up a " university council," which passes upon major policies affecting the entire institution. They also seek to iron out differences of procedures regarding such internal problems as admission, graduation requirements, the marking system, and salary levels, and adjust the total budget to the needs of the separate colleges.

The fiscal affairs of the institution are allocated to a special officer, variously called comptroller, treasurer or bursar. His functions include handling the investment of endowment funds, determination of the total budget, and an appraisal of potential sources of income to maintain a balanced budget. Not infrequently, his control of the purse actually gives him considerable power over academic matters through determining relative expenditures for specific areas of service or for new developments.

Another university-wide activity is usually allocated to a special officer, responsible for maintaining effective public relations. Larger institutions may employ several persons to co-operate with the local press in giving publicity to unique activities of the institution, to plan and distribute special brochures, and to conduct, in co-operation with the fiscal officer, special campaigns for funds.

An increasing number of institutions are establishing central services to assist the faculty of the various colleges in providing instructional aids. These services include multi-sensory aids, testing, counselling, and bibliographical assistance. In a few states these services are provided on a statewide basis, either through the State Department of Education or through loans from the state university.

Departments and Committees

Below these large administrative units, and services, the separate college is divided into departments, with a chairman, frequently the ranking member of the department. Practically all institutions are seeking to find a middle course between two conflicting trends. One is the further multiplication of departments through division of existing departments. Thus an engineering school will be divided into separate departments of civil, electrical, chemical, and aeronautical engineering. A department of biology may be subdivided by creating a separate department of botany; or geology; sociology may split off criminology or educational sociology. This tendency to splinter subject-matter into separate departmental units of administration has been carried to a great extreme in many institutions. It has resulted in the multiplication of courses to such a degree that it would take 42 years for a student taking a full-time programme each academic year to complete all of the courses offered by one of our large universities. Even small institutions have tended to ape the larger ones and the difference is largely one of the degree of splintering.

Beginning in the last decade and accelerated by the war, a converse trend has developed through provision for general or survey courses that cut across several departments. Thus a survey course in science will include material from the various fields of the physical and biological sciences ; one on American institutions will require participation by the departments of sociology, economics, political science and education.

To resolve these converse trends, institutions have usually limited survey courses to the freshman and sophomore years. Some institutions have multiplied the splintering by establishing separate departments or even colleges of general education.

Formulation of Policy

In order to provide faculty (i.e., staff) responsibility for certain aspects of institutional policy, committees are appointed to consider special problems. These problems may involve basic decisions regarding curricula and course requirements, or they may be detailed and specific such as the conduct of student activities or the selection of candidates for honorary degrees.

The faculty meeting, conducted usually once a month, is the

major forum for exchange of opinion and for the formulation of academic policies. It is presided over by the President in a smaller institution and by the dean of the separate colleges in universities. There has been a very deliberate effort on the part of most college administrators to make faculty meetings of more importance in policy determination rather than for routine matters.

One of the basic issues in college administration is the degree of faculty participation in total institutional policies. Illustrative of these issues is the question whether the administrative officers or the faculty should determine policies pertaining to salary, tenure, promotion and retirement. In some institutions these matters are jealously retained as the exclusive province of the President; in others, fortunately, the faculty have an important voice in determining the conditions under which they work.

President Truman's Commission on Higher Education strongly recommended greater faculty participation and proposed the following principles of a sound salary policy: ". . . the beginning salary should be sufficiently high to meet competition and to attract outstanding talent; there should be early increases in salary sufficient to hold excellent teachers and research specialists; the salary schedule should provide for reasonable increases in salary, based upon satisfactory performance, within each category of rank; the typical salary should provide for the maintenance of reasonable living standards and should reflect recognition of the individual's worth to society; and promotion from rank to rank—instructor, assistant professor, associate professor and professor—should be determined by merit in teaching, research, publications, or other academic service."

Assistance to Staff Members

The amount of secretarial and other assistance available to faculty members varies with the financial status of the institution and the attitude of its administration. Some provide adequate help both for the usual secretarial work and for grading of papers. Others are extremely niggardly and the effectiveness of the instructor is impaired by the necessity of writing his own letters and handling other details. An illustration of such unwise economy is illustrated by one large institution which provides a total budget of $50.00 a semester to carry on all of the correspondence and administrative and other details of a department of four full-time and three part-time faculty members.

Social Security and Pensions

One important aspect of administration in relation to the total employees of the institution is the social security provided through unemployment insurance and old-age pensions. When the Social Security Act was originally passed in the 1930's, educational institutions successfully resisted being included under its provisions. Now the institutions are as eagerly seeking to come in under the provisions of the Act to provide pensions for their academic staff. There is not complete unanimity as to the inclusion also of secretarial and service personnel. Legislation now being considered by the Congress may broaden the coverage of the Act to include employees of educational institutions.

In addition to the Federal proposal, some 400 institutions participate in the Teachers' Insurance and Annuity Plan—a voluntary non-profit plan. Both the institution and the faculty member contribute a portion of their monthly salary, usually 5 per cent. each. The fund cannot be drawn upon except at the death of the insured or upon reaching his 65th birthday.

The competition with other employment opportunities which has followed World War II has made it necessary for an increasing number of institutions to provide greater economic security for the old-age of their employees. But even now more than half of such employees have no protection other than that which they may provide on their own initiative.

It is difficult to describe administrative and organisational relationships of higher education in the United States without increasing confusion by over-emphasis of the variations in such relationships. There are, however, certain basic trends and these have been emphasised in this brief analysis. Perhaps the most hopeful aspect of the picture is the increasing trend toward closer co-operation of all institutions both through voluntary organisations and through governmental agencies. But the local autonomy of the institution has and will continue to be a major factor in the expanding service of our colleges and universities to the nation and to the whole world.

IV. AIMS AND PURPOSES OF HIGHER EDUCATION

By Guy E. Snaveley

Executive Director, Association of American Colleges

Veritas vos liberabit. This motto on the seal of the Johns Hopkins University in Baltimore adequately indicates the aim and purpose of the first post-graduate institution of higher education in the United States. Remarkable indeed has been the record of this university in educating persons who have extended the frontiers of knowledge. It still stands as a pharos in the academic world, although quite a number of independent and state-supported universities have long since outstripped it in financial resources. These others, to be sure, have similar mottoes and ideals.

The aims and purposes of the four-year liberal arts colleges, whether independent units or component parts of universities, are likewise indicated most often by Latin or Greek mottoes on their official seals. An example is *Pro Christo et Republica* on the seal of Birmingham-Southern College, located in the busy steel centre of the Deep South. The records show that many alumni of this college have become distinguished in public life as governors, congressmen, mayors, and state legislators, while others have had illustrious careers as clergymen, including several bishops.

These two illustrations confirm the general consensus that our colleges and universities have a twofold purpose—cultural and pre-vocational. The undergraduate four-year college aims to give the student a broad cultural background, particularly in his first two years, and then an opportunity in his latter two years to stress subjects that should have a bearing on his future career.

If the student proposes to study medicine, the counselling officer will advise his majoring in the biological sciences; if he should prefer law, he would be advised to major in the social sciences, etc. At present there is a distinct trend towards emphasis on the importance of a well-rounded curriculum, which will include fundamental courses in the humanities, the natural sciences, the social sciences and the fine arts as the prerequisites for admission to the advanced professional schools of theology, medicine, law, engineering, journalism, etc. If a person fails in his undergraduate days to take a course in political science or economics or French or physics or

psychology or philosophy, he will usually find that the required courses in the post-graduate or professional school occupy his time so completely that his desire for more courses in the area of general culture will be impossible of fulfillment or must await for gratification until entrance into his chosen profession—a rather forlorn prospect.

The academic policies prevalent among the 630 odd accredited four-year colleges, whether as independent units or as component parts of universities, are quite varied, though they follow a general pattern as indicated above. Quite the opposite was true for some 250 years following the founding of Harvard College in 1636, the first American institution of higher learning. For nearly two centuries and a half the same general plan of curricular study prevailed throughout the American colleges. There was for every college student a compact core of courses in classical languages, mathematics, English, ethics, and natural philosophy.

The Meaning of a Liberal Education

Under the leadership of the late President Charles W. Eliot, Harvard evolved the so-called Free Elective System. With modifications of differing degrees, similar plans of studies were adopted throughout the American college world. The elective system began to be criticised for a variety of reasons, but chiefly because it provided no guarantee that students would elect a coherent programme of studies. Nor was the situation improved by the efforts to require concentration and distribution of courses. In 1936 the American Council of Learned Societies, concerned with the future of the humanities in American education, initiated plans to discuss current trends in higher education, which gradually broadened out into a discussion of the meaning of a liberal education. During the war years this became the major theme of deliberations on the reorganisation of the college curriculum by national and regional associations, and by special committees appointed in many colleges and universities. In this movement an important part was played by the Association of American Colleges. The Association's Commission on Liberal Education held several important meetings and drew up a statement that was widely distributed in the spring of 1943.

In discussing the nature of a liberal education, this report makes the following definite suggestions concerning the college curriculum:

> "Liberal education has been conceived of in many different ways, and there is still widespread disagreement as to what constitutes a liberally

educated man. Yet most people would probably agree that anyone who is illiterate and inarticulate, uninformed and ignorant of the ways in which knowledge can be acquired, insensitive to man's highest values and provincial in his outlook and orientation is *not* a liberally educated person. This would suggest that men and women *are* liberally educated to the degree that they are *literate* and *articulate* in verbal discourse, in the languages of the arts, and in the symbolic languages of science; *informed* concerning their physical, social, and spiritual environment and concerning their relationship thereto as individuals ; *sensitive* to all the values that endow life with meaning and significance; and able to *understand* the present in the perspective of the past and the future, and to *decide and act* as responsible moral beings.

" This condensed description of a liberally educated person can be elaborated in terms of specific skills and abilities, areas of knowledge and types of integration.

" (A) *Skills and Abilities* Some of the most important skills and abilities which liberal education helps men and women to develop, and which, in turn, are essential to the pursuit of liberal studies, are the following:

(*a*) To speak one's language correctly and effectively; to read significant documents with comprehension and to write clearly.

(*b*) To use at least one other language with facility.

(*c*) To recognise and organise facts of different types, and to interpret them correctly.

(*d*) To understand and appreciate great documents of art, morals, and religion, and to evaluate them with imagination and wisdom.

(*e*) To use intelligently and with a sense of workmanship some of the principal tools and techniques of the arts and sciences.

(*f*) To live with others, with imaginative sympathy and understanding, and to work with them co-operatively and justly.

" (B) *Areas of Knowledge* Some of the most important areas of knowledge which a person must explore to be liberally educated, and which therefore constitute the subject matter of a liberal education, are the following:

(*a*) The world of nature—the data, methods and achievements of the physical and biological sciences, the historical development of these sciences, their technological value, and the philosophy of science.

(*b*) Human society and man's interrelated social, political and economic institutions—their historical development, underlying principles and respective values for human life.

(*c*) American Civilisation and its European background—its historical origin, its relationship to European culture, its own distinctive character and contemporary tendencies.

(*d*) Other cultures—primitive and advanced, oriental and occidental, and their significance.

(*e*) The arts and crafts—man's artistic achievements in their historical setting, and the mediums and form of artistic expression, past and present.

(*f*) Man himself—as a biological, psychological, moral and spiritual being; and as a member of a family and of a local, national and international community.

(*g*) Man's attempt, through the ages, to understand (in art and literature, philosophy and religion) what life means and how to be a responsible and useful human being."

The Association of American Colleges obtained Foundation grants for the publication of three books on the subject of liberal education. One, *Liberal Education* (New York, 1943), by Professor Mark Van Doren of Columbia University, stimulated much discussion. *Colleges for Freedom*, by President Donald J. Cowling, of Carleton College, and President Carter J. Davidson, of Knox College, was published in 1947. A third volume on the subject is being written by Professor William N. Cowley, formerly president of Hamilton College.

Since World War II practically every accredited college has revised its programme of studies, more or less along the lines of the recommendations outlined above by the Association of American Colleges. Conspicuous among these are the curricular studies of their liberal arts programmes made by the large universities like Yale, Princeton, Columbia, Harvard, Johns Hopkins. In 1945, Harvard University issued the report of a special committee entitled *General Education in a Free Society*, which has aroused widespread interest in the United States and abroad.

After lengthy philosophical discussion, the Harvard committee reaches the conclusion that it is time for the free elective system to be superseded by a plan which will provide for an integration of courses in " general " and " special " subjects. It recommended that all students should have a background of fundamental courses in the three general fields of humanities, the social sciences, the natural sciences and mathematics. Beyond that the specialised courses should be chosen by the student through a system of guidance and counselling wherein the abilities, interests, and future plans of the student would be carefully considered. Excellent is the committee's observation that there is no need to have all the general courses taken in the first two years of college nor to have the specialised courses unduly delayed.

Maintenance of Standards

Colleges of recognised standing obtain their charters from the various states in which they are situated. One or more accredited colleges have been chartered by each of the forty-eight states in the United States. The State Board of Education of New York, officially known as the University of the State of New York, is the only state that sets up standards for approved colleges. The Federal Government does not attempt to accredit colleges or schools.

Accrediting of colleges and universities was not attempted until 1895, when almost simultaneously in the Middle West and South two regional associations were organised for the chief purpose of formulating standards for the approval of colleges and secondary schools in their respective areas. At that time the public high school was just beginning to develop. There were many variations of standardisation among the private high schools which had been flourishing extensively, particularly since the war between the States.

The regional college associations are composed of colleges and universities of high rank which have joined voluntarily in setting up in their respective areas standards for themselves and for others that have been found to meet the accepted standards. The standards are much the same for all the regional groups. Originally the emphasis was placed more on quantitative requirements which could be readily measured. Fortunately the emphasis is now decidedly on qualitative measurements. These regional accrediting associations have been invaluable in their influence in elevating the standards of the American college. The regional associations are: New England Association of Colleges and Secondary Schools, Middle States Association of Colleges and Secondary Schools, North Central Association of Colleges and Secondary Schools, Southern Association of Colleges and Secondary Schools, and Northwest Association of Secondary and Higher Schools.

In addition to the regional standardising associations there is an overall organisation called the Association of American Universities. This association is composed of institutions "engaged in giving advanced or graduate instruction." In addition to its own membership, it lists as "approved" other institutions whose graduates are "qualified" for unconditional admission into the recognised post-graduate schools. Colleges are "approved" if they satisfactorily meet a number of standards, more or less the same as

those set up by the regional associations. To be considered for approval colleges must first have been on the accepted list of a regional association.

The Association of American Universities " regards as one of the chief grounds for the inclusion of a college in its approved list evidence that the college is successful in a high degree in stimulating scholarly interest in its students and in preparing them for more advanced scholarly endeavour. It believes that this evidence is partly to be found in the extent to which the graduates of a college continue their study in leading graduate, professional and research institutions, and in the degree of success which they attain."

The chief criteria used in determining whether a college is eligible for inclusion in the " approved " list are:

1. The college should require for admission the satisfactory completion of the graduation requirements of an accredited high school, or its equivalent. Other qualitative requirements should be imposed since all secondary school graduates are not interested or fitted for college.

2. In accepting students for advanced standing from other institutions, " the college should enforce fully its own entrance requirements and its standards for acceptable college work."

3. The quantitative requirements for graduation from college should be satisfactory completion of 120 semestar credit hours, or the equivalent. There should be in addition " further scholastic qualitative requirements."

4. The curriculum should include courses of study " in at least seven departments."

5. The faculty should have had appropriate and sufficient post-graduate study: the number of faculty needed will depend on type of college, number and kinds of courses offered and number of students.

6. The teaching schedule of faculty must not be too heavy.

7. The financial support must be adequate. In addition to student fees, an approved institution must have a steady annual income from endowment investments, grants and contributions. " The financial status of each college will be judged in relation to its educational programme."

8. The campus, buildings, libraries, laboratories and other necessary apparatus, as well as their maintenance and efficient operation, constitute a most important criterion for accreditment.

9. The college library is of prime importance. It should have an adequate and well-distributed collection of books, with annual subscription for necessary journals and periodicals. The library must have " definite annual appropriation for the purchase of new books." There must be professionally trained persons in charge of the library.

10. " In determining the standing of a college, emphasis is placed upon the curriculum, the quality of its instruction, the character of its administration, the efficiency of its offices of record, the standards for degrees, the

tone of the institution, and its success in stimulating and preparing students to do satisfactory work in recognised graduate, professional or research institutions." Final accreditment is made only after an official inspection has been made by a duly appointed representative of the Association.

Statistics collected by the United States Office of Education indicate that in 1910 there were about 350,000 young men and women enrolled in the American liberal arts colleges; in 1920 this number had increased to slightly over 500,000; in 1930 the enrolment had jumped to almost 1,000,000; in 1940 there were nearly 1,500,000 enroled in colleges in the United States; and for the current year 1947-48, the enrolment totals about 2,500,000. Naturally, during the war years, the enrolment showed a decided drop. The great increase for the current year is due largely to the aid given by the Federal Government to veterans of World War II. By Congressional action each veteran is permitted, over a brief period of years, to receive towards a college education the sum of 500 dollars per college year of nine months, to cover tuition and incidental expenses, and about 100 dollars per month for living expenses—a little less for single veterans and a little more for married veterans.

Changes in Curriculum

When the noticeable increase in enrolment began about the turn of the century the colleges found it advisable to expand gradually their curricular offerings. In the two decades before World War II this expansion was quite noteworthy.

The typical college of the late nineteenth century would offer under " English " a freshman course in Composition and Rhetoric, a sophomore course in Survey of Literature, and in the junior and senior years elective courses in certain areas like Shakespeare, Milton and the Victorian Period. In the catalogue of a mid-western university listing courses offered to undergraduates last year, there are listed under " English ": Composition and Rhetoric, Narration, Exposition, the Short Story, Advanced Writing, Masterpieces, English Life and Literature, General Literature, Introduction to Criticism, the English Language, World Literature, Chaucer and His Time, Elizabethan Literature, Shakespeare, Milton, the Age of Reason, Johnson and His Time, the English Novel, the Romantic Period, the Victorian Period, Victorian Prose, American Literature, the American Novel, the Literature of the Mississippi Valley, Modern Poetry, Recent Fiction.

A generation ago the average college would offer in the division of Social Sciences three or four courses in history, two or three courses in economics, about the same number in political science, and one in sociology. In last year's catalogue of an outstanding college the following courses were listed in the Department of History alone: Modern Civilisation, Introduction to Social Studies, Ancient and Medieval History, American History, Special Problems in European and American History, Latin American History, English Legal and Constitutional History, History of Missouri, American Constitutional History, Foundations of National Power, Special Problems in World History, the Hellenistic Age, Contemporary Europe, Recent United States History, the Far East, the Near East, Greek History, Roman History, the Early Middle Ages, the Middle Ages, the Beginnings of Capitalism, Tudor and Stuart England, the British Empire, Medieval Culture, Renaissance and Reformation, the French Revolution and Napoleon, Modern France, Modern Europe, Social Forces in American History, Economic History of the United States, the West to 1865, the Far West, History of the South, American Colonial History, the History of Argentina, Brazil and Chile, American Diplomatic History, Modern Military History, Economic History of Modern Europe. Similar expansions have occurred in the departments of Economics, Political Science, and Sociology.

Whereas a generation ago one man, sometimes with the aid of an assistant, was expected to give all the courses in chemistry and physics, the number of instructors has had to be increased to give the following courses in chemistry alone: General Inorganic, Elementary Organic, Analytical, Qualitative Analysis, Organic Chemistry, Organic Synthesis, Quantitative Chemical Analysis, Physical Chemistry, Advanced Organic Synthesis, Qualitative Organic Analysis, Quantitative Organic Analysis, Microchemistry, Inorganic Micro-Quantitative Analysis, Physico-Chemical Calculations, Chemical Thermodynamics.

Obviously these remarkable expansions in the various departments were made possible only by corresponding increases in financial resources—annual income from fees, endowment and gifts; expanded laboratory facilities and equipment. In the case of publicly supported institutions of higher education the various state legislatures responded to pressure to make the necessary increases in annual appropriations. The independent colleges have greatly

increased their endowments through gifts and bequests, and more recently, by advance in annual tuition fees.

With the increase in financial resources the colleges have been able to add new departments as well as new courses, particularly in the last forty years. Even the smaller colleges have added in recent years such departments as Geology, Geography, Education, Psychology, Spanish, Russian, Anthropology.

Staff Promotions

One problem which is difficult of solution and which has caused considerable debate is the relative importance of teaching and research in considering faculty (staff) promotions. Too long the tendency has been to promote more rapidly the instructors who have published articles, monographs, and books. The general consensus is that the better teacher is often one who devotes most of his time to teaching and preparation therefor. Of course, every good teacher will do a reasonable amount of research whether he succeeds in publishing or not. In some colleges and universities there have developed recently plans for recognising good teachers by appointing them to endowed professorships.

National Importance of Public and Private Institutions

Higher education in the United States has become a big business. The annual operating expenses run up into the millions. The corpus of endowment funds at Harvard University alone total upwards of two hundred million dollars, not to mention the large sums invested in its campus and plant.

The stability and remarkable progress of the United States as a nation depend greatly on the continued success of its dual system of higher education. If the private colleges should be completely overshadowed by the state-supported institutions of higher education, the outlook for the future of the country gradually would deteriorate. Among the leaders of both types of education it is generally conceded that they should both be kept strong so as to continue to supplement and complement each other in their programmes.

V. THE GRADUATE SCHOOL: ITS PLACE IN AMERICAN INTELLECTUAL LIFE

By Hayward Keniston

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The American graduate school is unique among the world's institutions of higher learning—a company of teachers and students dedicated to the advancement of knowledge through scientific and scholarly research. Its professors are chosen for their mastery of a special field of investigation; to it are admitted only those students who have graduated with a bachelor's degree from a four-year college, liberal or technical, and who give evidence of training and capacity in the particular discipline in which they intend to pursue advanced studies. It has become, in the United States, the faculty which distinguishes the "university" from the "college".

Development of Graduate Studies

Before the middle of the 19th century American scholarship had been the hobby of a privileged few. Only a handful of college graduates remained in their academic halls to continue their studies. But the expansion of technical studies, typified by the establishment of the Lawrence Scientific School at Harvard (1847) and the founding of the Michigan College of Agriculture (1857) and the Massachusetts Institute of Technology (1861) gave a new impetus to advanced work in other fields. In the 50's the universities of North Carolina and Michigan granted the first "earned" degrees of A.M., based upon a period of resident graduate study; in 1861 Yale awarded for the first time the graduate degree of Ph.D., based upon at least two years of advanced study in the department of philosophy and arts.

It is the decade of the 70's which witnessed the first wide flowering of graduate studies. In that period Georgia, Harvard, Yale, and Princeton granted their first Master's degrees; Harvard, Columbia, Michigan, and Princeton, their first doctoral degrees. The number of students was small. In 1870 there were 44 graduate students at Yale, Harvard, Michigan, Lafayette, and Princeton; by 1880 the number registered in all the institutions had reached 460. But the design of graduate studies was already beginning to emerge. In 1872 Harvard placed graduate instruction under the charge of a University Council and defined the requirements for the degrees of

A.M., Ph.D., and S.D. The master's degree involved a year of instruction of advanced grade. For the doctor's degrees the candidate must pass an examination on the field of his special study and must present a thesis which was a contribution to the knowledge of the field. The usual period of study was to be a minimum of three years.

Perhaps the most significant event of the 70's in the development of graduate studies was the foundation, in 1876, of the Johns Hopkins University at Baltimore. Here, for the first time in America, appeared an institution which deliberately rejected undergraduate instruction as its aim and proclaimed its purpose of promoting advanced studies. To Daniel Coit Gilman, first President of the University we owe a statement of what have become the ideals of the graduate school, an institution where "all departments of learning—mathematical, scientific, literary, historical, philosophical —should be promoted", where "instructions should be as thorough, as advanced, and as special as the intellectual conditions of the country will permit", an institution built on a group of scholars chosen for their "devotion to some particular line of study; their power to pursue independent and original investigation and to inspire the young with enthusiasm for study and research".

Although Gilman had proclaimed his desire to create an American university, the impulse to promote disciplined investigation, at Johns Hopkins, as well as at other universities, had undoubtedly come from Europe. In mathematics and the sciences England had set an example of rigorous method. But it was above all German scientific scholarship which set the standards for the new type of study, not only in the sciences but also in history, philology, and the other humanistic disciplines. Many of the men who directed research at the new level received their training at Göttingen, Heidelberg, Munich, or other German universities. They returned, fired with a new enthusiasm for the "scientific method"; they brought with them a German degree, the Ph.D., which was to become the crown and seal of all graduate training.

It is not necessary to trace in detail the subsequent development of graduate studies in America. Suffice it to say that the zeal for specialised studies spread rapidly to other universities, both privately endowed and state-supported. In 1893 another institution, the University of Chicago, was founded, where advanced studies and

research were to be given the place of paramount importance.* Down to the end of the last century graduate studies were largely organised as special departments or divisions of the faculty of arts and sciences. But as graduate work and research in the technical and professional fields increased, it became necessary to recognise the broader interests of the fields. To-day the graduate school is a major unit in every American university. In 1940 they granted 3,290 doctoral degrees; in 1947 the number of these degrees had risen to 3,787.

Aims and Contributions

Aside from its organisation as a separate administrative unit, with a dean and executive board or council, there has been little change in the major aims and purposes of graduate study since the 70's of the last century. To-day, as then, its primary purposes are the advancement of knowledge through rigorous methods of study and research, and the training of a new generation of scientists and scholars to hand on the torch of learning. By its very nature it stresses specialisation, the mastery of some small aspect of the increasingly complex physical and intellectual world in which we live. It remains essentially a system of intimate collaboration between master and pupil. Hence the importance of the seminar type of instruction, devoted to the minute study of a special problem. Hence, too, the widespread use of graduate students as "research assistants", apprentices who learn their craft by participating in the investigations of their teachers.

The doctoral degree still rests upon broad grounds—the mastery of a field of study, such as anthropology or economics, tested in a series of examinations, the preparation of a thesis which is a contribution to knowledge based on independent and original research; and a final examination on the thesis and the field in which it falls. Naturally the training involves two main phases, the acquisition of the essential facts and data of the field, and the mastery of the techniques and methods of collecting, organising, and interpreting data, peculiar to the discipline.

Critics of doctoral training have been numerous in recent years, denouncing the narrowness of its specialisation or the esoteric futility of its doctoral dissertation. But specialisation is the essence

* In more recent times, both Johns Hopkins and Chicago have been forced, partly on financial grounds, to include undergraduate instruction as a part of their programme.

of modern scientific study. Any gain in our knowledge of man and his universe, however small or seemingly remote, is worthy of respect, for the progress of science rests on this step-by-step accumulation of understanding. And the formulation of a new principle, the discovery of a new relationship in some insignificant corner of learning is often the starting point for a major series of scientific and scholarly advances. To deride the futility or irrelevance of a doctoral thesis on the grounds of its theme is to assume a hierarchy of intellectual values which is abhorrent to the pragmatic mind of America. Specialisation is the price we must pay for the enlargement of human knowledge.

For the contributions of scientific research to American life have been little less than extraordinary. As the graduate schools began to turn out an ever-increasing number of trained specialists, the practical American spirit started at once to apply their learning and their techniques to the invention and development of new instruments and new machines. Great industrial organisations, like the Bell Telephone Company or the General Electric Company, invested large sums in the construction and equipment of laboratories where these specialists continued their researches. The Federal government in Washington established research agencies, such as the Bureau of Standards or the Bureau of Plant Industry. At the same time private foundations, like the Carnegie Corporation or the Rockefeller Foundation, allotted a large portion of their funds each year to the promotion of basic research in the universities, thus encouraging the development of new men, new methods, new ideas. The bill to establish a National Research Foundation under government subsidy, now before the Congress, is a public recognition, fruit of the World War II, of the rôle which research has come to play in our contemporary society.

Research and Teaching

Research has, in fact, become a word of almost magic connotation. To say that a product or a plan is the "result of long years of research" is to lend it an aura of authority and prestige which no one could question. Advertising agencies, department stores, soap factories have their "research division". Economic, political, and social problems are attacked by research methods. We have almost come to believe that research will one day solve all our problems, cure all our ills.

Even if we dismiss such notions as fantastic, we cannot deny the immense change which the by-products of research have wrought in the comfort, security, and health of society. More important, though less tangible, is the change it has brought about in our attitude toward intellectual values, toward truth itself. For the open-mindedness of the investigator, his insistence on adequate tests of validity, his integrity in the objective interpretation of data are already exercising their influence on the public mind, in spite of our passionate and intemperate approach to political and social issues.

Much of this influence has been exerted through the effects of graduate study on our educational system. The great majority of the men who complete their doctoral training, particularly in the humanities and the social sciences, enter the teaching profession in colleges and universities. To their new tasks they bring the interests and enthusiasms of their years of graduate study. Since most of them begin their careers as undergraduate teachers, it was inevitable that departmental specialisation should become the rule in undergraduate college, that preparation for graduate study in a special field should take its place beside preparation for future professional study in law or medicine. Thus the research spirit penetrated more and more deeply into undergraduate education. It is significant that more of the men who have won the distinction implied by a star in *American Men of Science* received their early training in small liberal arts colleges than those who began their studies in the large universities.

An important factor in the extension of the influence of graduate studies in the colleges has been the pressure of the various accrediting associations which give unity and common standards to American education. For these associations have set up the possession of the Ph.D. as a qualification for appointment in a reputable college; they have even required that a certain proportion of the staff must hold that title, if a college is to be approved. This arbitrary requirement has, it is true, raised standards by assuring a minimum evidence of training for staff members, but it has tended to make the doctoral degree a teacher's licence, rather than a stamp of research capacity; it has encouraged weak institutions to grant the degree which served only as a licence.

The graduate school has also exercised a potent influence on professional education in the United States. In the earlier days

American schools of law and medicine were undergraduate institutions, parallel with undergraduate colleges of liberal arts. But as the notion of specialised study beyond the baccalaureate degree developed in the graduate schools, the schools of law and medicine gradually increased their requirements for admission until to-day a bachelor's degree is required from all students entering the better professional schools in these fields; they, too, have become "graduate" schools. The same tendency is manifest in other professional schools. Already many schools of business administration and public health require a bachelor's degree for admission; in a few institutions, education, engineering, journalism, and library science are taught only at the "graduate" level. It is becoming clear that professional training, as well as training for research, must rest upon a broad and solid experience at the undergraduate level.

In still another respect the influence of the graduate school is reflected in the professional schools: in the development of professional research. Nowhere has this been more widespread and more fruitful than in the medical schools. The tremendous contribution of medical research to the alleviation of pain, to the mastery of epidemic and endemic diseases, to the prevention of illness, to the lengthening of the span of life is a matter of common knowledge. We must soon expect to die only of old age. And the same concern for research is evident in law, in agriculture, in engineering, and in the other professions. They, like the basic discipline of the arts and sciences, are no longer content to transmit to youth the accumulated learning of the past, they, too, have accepted the obligation of extending the frontiers of knowledge in their field and of preparing a new group of trained investigators.

Value and Limitations of Scientific Method

Now it is obvious that the field in which modern research must yield its most brilliant and fruitful results is that of the sciences and their technical derivatives. But from the earliest days in Germany, the " scientific method " was extended to humanistic and social studies and that trend has been stressed in the United States. In so far as the "scientific method" has meant the rigorous examination of documents and texts, the testing of the validity of data, the objective evaluation of ideas and theories the method has been valuable. It has raised the standards of scholarly integrity. But the methods of scientific research are peculiarly appropriate to

quantitative data and they have, therefore, tended to encourage a merely statistical approach to humanistic and social disciplines. Now these are fields in which progress can be made only on the basis of value-judgments-aesthetic, ethical, or metaphysical. And the overwhelming prestige of science has tended to stifle or at least to discredit, the expression of the purely personal evaluations on which the humanities must depend for their progress.

It is not surprising, therefore, that such disciplines as literary criticism or political theory have not kept pace with scientific studies. By the same token, much of the research in education and sociology and the other social studies has been content to assemble statistical data, without any adequate attempt to interpret the significance of those data, either for the formulation of a theory or their application to the solution of contemporary problems. Perhaps we are caught in the implicit connotation of the term " research," with its overtones of measurement, concreteness, constancy. But surely there is a wide field for the study of the individual man and his society which deserves a place in graduate study. In days gone-by we called that study " scholarship."

Research and Undergraduate Education

From the beginning, the graduate schools have accepted the responsibility of training students in the methods of research. But save for a few fields like chemistry, the young Ph.D. has not entered a purely research career ; he has begun his career as a teacher of undergraduates. If his post was in a small liberal arts college he might never expect to train advanced students ; even in a university, he must wait for years before he could conduct graduate studies. Has the graduate school prepared him to perform well his task as an undergraduate teacher ?

The answer must certainly be " no." In fact, the type of graduate training to which he has been exposed is irrelevant to his new duties, except in so far as it has provided him with a broad knowledge of his field. For the undergraduate must lay his foundations of knowledge broadly, not narrowly ; he must be made aware of the inter-relations between kindred disciplines ; he must be taught the unity of synthesis, as well as the fractions of analysis. The primary purpose of graduate study, high specialisation, has little to contribute to that broad, liberal education which is the ideal and goal of the arts college.

How, then, shall we meet the need for better trained college teachers? It does not seem wise to modify the present standards of the doctor's degree. We need, increasingly, a corps of trained scientists and scholars, in universities, in government bureaux, in industry and commerce, in international affairs. It would be more prudent to limit doctoral training to those who expect to make research their life work and to set up another programme for those who are preparing to teach in liberal arts colleges or in two-year junior colleges.

This raises at once the question of the place of the master's degree in the programme of graduate studies. Once granted in recognition of a continuing interest in liberal studies on the part of college graduates, for almost a century it has been the title awarded at the end of a year of formal graduate study. In smaller universities it has been the only graduate degree awarded and its recipients were largely secondary-school teachers who valued it chiefly for the rewards it brought in salary. At some of the large universities, on the other hand, the type of doctoral training invaded the master's programme; the master's dissertation was a doctor's miniature thesis.

Another interesting development of recent years has been the practice of many graduates, without any professional plans, to continue their studies in a particular field for a fifth year after graduation. This practice is in line with the general drift in America toward a longer period of education. It is to be explained, in part, by the gradual lowering of standards in both secondary and college education, imposed by the necessity of educating an increasing proportion of the youth. For colleges everywhere are being forced to teach subjects once taught in secondary schools and required for admission, with the resultant loss in time for more advanced studies.

The master's degree has never had clearly defined and generally accepted standards, as has the doctor's degree. But some institutions are already requiring two years of study for the master's degree in certain fields. It would appear that this is the direction of the future in our effort to meet the need of a programme to train college teachers. In these two years it should be possible to prepare a new generation of young men and women for the complex educational and social duties of the teacher in a modern college.

Place of the Graduate School in American Education

The graduate school has become a vital element in American

education, a sort of hallmark of institutional distinction. Hundreds of one-time colleges offer a year of work leading to the master's degree; in many a state teachers' college, only yesterday a normal school, there will be found on one of the office doors the words: "Dean of Graduate Studies." But it must be admitted that the number of distinguished graduate schools is small, perhaps a dozen or fifteen at most. Some are in private universities, like Harvard, Yale, Columbia, Princeton, or Chicago; others are a part of state universities, such as California, Illinois, Michigan, or Wisconsin; Cornell is in part privately endowed, in part state-supported. At the same time, in a score or more other institutions, there are individuals and departments which are providing first-rate training in research in their special field.

Since there is no federal control of education, the several schools maintain common standards for admission and common requirements for degrees through voluntary organisations, like the Association of American Universities, the National Association of State Universities, and the American Association of University Professors. Between them there is a stimulating competition for competent teachers and scholars which serves to promote common standards of academic performance. Inevitably there is a rivalry for the better students, expressed in the appointments to scholarships and fellowships. But students in general throng to the stronger institutions, realising that their doctor's degrees have greater professional and academic prestige. The doors are open to all; the only requirement is that they should have demonstrated, in their undergraduate studies, the capacity to profit by advanced study in a special field.

There is every reason to believe that the American graduate school will continue to flourish. It has met and is still meeting the intellectual and social needs of the nation; it is contributing its modest share to the advancement of knowledge throughout the world. What is more, it is little by little raising the standards of critical judgment throughout the body politic by its insistence on a fair, honest, and dispassionate evaluation and interpretation of the data of experience. To the extent that it wins success in the attainment of that goal, it will have justified the place of honour that it holds in the hierarchy of American education.

THE MISSION OF THE UNIVERSITIES

By Dr. G. M. Trevelyan, O.M.

Master of Trinity College, Cambridge

I have been asked to write a short article about the position of the universities in Great Britain, as regards their importance both in the training of professional men and specialists, and also in the production of good citizens, men and women of culture and wide understanding. These are two aspects of the task of universities, but the classes so defined are not separate, for it is necessary for the purposes of a high civilization that professional men and specialists should themselves be men of culture and understanding, and this is one of the chief reasons why universities are to be preferred to technological institutes.

The Place of the Universities in the Past

First of all, regarding the universities of this country historically. I believe that they are more important to the nation than ever before, both because they now reach a higher level of excellence, and because other means of promoting the best products of civilization are being reduced or extinguished by economic and political change. Things were very different indeed two hundred years ago. In the eighteenth century, Oxford and Cambridge, in spite of the monopoly they then had of university education south of the Cheviots, were of little use to the country. Cambridge had recently given Newtonian philosophy and Bentleian scholarship to the world, but after that fell almost to the level of the Oxford described by Gibbon. People found out that their sons were being taught next to nothing at these establishments, so they ceased to send them to either university. The number of students fell to half what it had been in the days of Laud and Milton. It is true that eighteenth-century England produced fine literature, art, scholarship and science. But the splendid culture of the age of Johnson, Burke, Reynolds and Wedgwood got little help from Oxford or Cambridge. The country houses, the dissenting academies, and private individuals were the patrons and promoters of that great civilization.

In the nineteenth century Oxford and Cambridge reformed both their methods of teaching and their contribution to research. The number of students rose by leaps and bounds, and the quality of the dons was greatly improved. The vigorous young tree of modern

science had its deepest roots in Cambridge, in the days of Whewell, Adam Sedgwick, Darwin, Michael Forster and Clark Maxwell. The Oxford movement and the Liberal reaction against it under Jowett were both university born. Half the greatest names in Victorian literature—Macaulay, Thackeray, Tennyson, Matthew Arnold, Leslie Stephen—are those of university men who owed much more to their classical and literary training at Oxford or Cambridge, than Gibbon had done a hundred years before. By the third quarter of the century the direct influence of the universities on English life was very great ; the governing class was ceasing to be aristocratic and was becoming academic. It was significant that at this period the entry into the Civil Service was made by open competitive examination, in direct imitation of the system that had by that time grown up at Oxford and Cambridge.

New Importance of Universities in National Life

With the rise of the new universities, the scope and area of university influence was still further extended. The growth of state-aided secondary education, closely connected with Balfour's and Morant's Act of 1902, not only helped to supply the new universities with students, but was of great service to Oxford and Cambridge. Fifty years ago, for want of a proper supply from the schools, there were students in the colleges who were scarcely serious students at all. The improvement of secondary education in the twentieth century has raised the average level of college life at Oxford and Cambridge. Whether the best dons and undergraduates are better now than the corresponding class when I first knew Cambridge is more doubtful. But about the improvement in the average there is no doubt at all.

It is satisfactory, therefore, to note that in the last half century there has been an increase not only in the number of universities, but in the total numbers of the university population, and that the average level of students, of teachers and researchers is higher. But these facts do not by themselves give the full measure of the increased importance of the universities in the national life. For while the academic world has been growing and improving, the diminution of other sources and centres of literary, intellectual and scholarly activity in the nation at large, renders the universities relatively more important than before, apart from their own greater intrinsic merit.

Both the wealth and the leisure of the upper and the professional

classes have been very much reduced by a system of taxation that aims at levelling classes and by the unpopularity of domestic service. Victorian culture and scholarship relied only in part on the academic world ; they had deep and wide roots throughout the country as a whole, in large leisured and semi-leisured classes, some of whom wrote and many of whom read books of value ; and there were private individuals commanding various degrees of wealth that they could spend on private libraries and on financing cultured enterprises and publications, such as the Dictionary of National Biography. When people lived in fair-sized houses they had room for collections of books. Moreover, the printing, binding and publishing of books was then both rapid and cheap, and publishers could afford to keep on the market scholarly books commanding only moderate sales. There were many readers who cared about and bought works of literature, poetry and scholarship. To-day the book that cannot command a large popular sale cannot be reprinted. It is difficult to obtain a copy of some of our best English poets. If it were not for the schools of English, of classics, and of foreign languages in our universities, the knowledge of literature, ancient and modern, would die out. And if it were not for the University Presses, very few scholarly books not commanding wide circulation would see the light at all.

To put it more generally—in an equalitarian society, as ours is rapidly becoming, universities are more essential than before to maintain the standard of quality as distinct from quantity and popularity.

Need to Increase the Size of Universities

Although the university population of the country has greatly increased, it is too small. In America it is much larger, but our American friends tell us that our schools carry the education of their pupils further than is done in the schools of the West, and that some of the undergraduate work done out there is of the kind done in British schools. This should be borne in mind, but it is no reason for being satisfied with the still insufficient size of our own universities. For the real question is the " size of the university as a whole," not " the number of university students " separately considered. The object must be not simply to increase the number of students, but to put the universities in a position to deal with more students. This can only be done by increasing the staff, the equipment, the buildings. Unless these preparations are made for an increase in the student population, such an increase will lower the standard and quality of

university work and training. Now, as I have argued above, to maintain intellectual quality is the very essence of academic life, especially in the present equalitarian age. The quality of the universities would certainly deteriorate if they were flooded with masses of students without at least a proportionate increase in staff and equipment for teaching them up to the existing level.

Moreover it must be remembered, with regard to the numbers of the staff needed, that professors and lecturers have two tasks. They have not only to teach the students, but they have also to be themselves scholars and men of learning and research. They cannot perform the first task properly without having time left them to perform the second. They cannot give the students proper university education unless they themselves have leisure to keep up to date with the best learning or the best science of the day—in itself an ever increasing task in these days of specialism.

Further still, they must have time left them, apart from their teaching duties, to produce original work of their own. If the increasing number of students keeps the professors and lecturers so busy that they have less and less time to produce original work themselves, then the supply of learning and scholarly literature will dry up. This is much more true than it was in the past, because our present system of taxation and the dislike of domestic service are in effect abolishing those leisured and semi-leisured classes, some of whom used to produce in abundance fine works of scholarly literature. Take my own subject for example, if history is not written in the universities in future, very little of value will be written elsewhere, as it used to be when leisured and semi-leisured classes were thickly scattered over the country at large.

Direction of Expansion

For all these reasons I am extremely anxious that more money should be provided for university expansion. And in my opinion much the greater part of it ought to go to the newer universities which lack the liberal endowments with which private benefactors of old enriched the Oxford and Cambridge Colleges. The two ancient universities require indeed the money that they now get from the State. And I should be glad to see another College apiece added to Oxford and Cambridge, particularly a College for the increasing number of researchers and professors who cannot be catered for in the existing Colleges.

But the larger expansion ought to come in the newer universities. London may be big enough in numbers, but it would benefit greatly by residential and social accommodation for its vast army of students. But the other universities and university colleges are, I apprehend, too small even in numbers. That cannot, I think, be said of Oxford and Cambridge ; a university may become too large for unity.

But the large expansion which I should like to see in the newer universities and university colleges must be an expansion of the whole university, especially of its staff, and not merely an expansion of the number of students which by itself would do more harm than good.

Importance of Residential Colleges

Moreover, there is the need for more buildings, not only more laboratories and lecture rooms (if there are to be more students) but residential accommodation. Even at Oxford and Cambridge with their colleges, the limit to the university population is at this moment set by the difficulty of finding lodging in the town for the surplus of undergraduates and research students, and for the increasing number of married dons who cannot sleep in the colleges.

How the present problem of accommodation stands in other universities I am not well informed. But I confess that the greatest change, the principal expansion, I should like to see in our newer universities to-day is the gradual extension of the system of residential colleges. I believe it is far the best solution of the problem of housing students and their teachers. To live in a college makes social life more easy and more pleasant both for dons and undergraduates. And it has important intellectual and educational advantages. In the first place it makes it easier for teacher and taught to get to know each other, as they to some extent share a common social and, therefore, a common intellectual life. And in the second place it makes it easier for friendship to grow up between men studying different subjects, with all the advantages of intellectual exchange. Faculty segregation is a danger in these days of ever-increasing specialism. But when the scientific man lives in the same college as the student of arts, they talk things over, they exchange ideas and ideals, they educate one another, they become friends. This is equally true of the students and of the men who lecture to them. The social intercourse of persons studying different subjects is, I think, one of the principal things to be fostered in a university, whether by the college system or otherwise. For the object of a

university is two-fold, to turn out men highly trained in some particular branch of knowledge, and also to give to those men a broad outlook on the world, and an understanding of the point of view and mental processes of those who have studied subjects other than their own.

State Support without Control

But how is all this university expansion to be paid for? As there are no longer to be rich men in Britain, the days of the college founder and university benefactor are passing away. What is to take their place? For any great academic expansion the further assistance of the State would seem to be necessary. This brings us up against the great problem of academic liberty.

I do not think there is danger in this country of any government tuning the universities to become agents of party propaganda, and depriving professors and lecturers who are not of the right political colour. This was done in seventeenth century England and is done in totalitarian states at the present time. But unless Britain becomes a totalitarian state and tolerates only one party within its borders, this will not happen. If Britain became totalitarian then nothing would save the independence of the universities, even if they subsisted entirely on private endowments.

A much more likely danger, which may be to some extent increased by increased financial aid from the State, is the danger of departmental or legislative interference with the management of the universities in questions like the number and character of the students they are to take, the character of the curriculum, and so forth.

Of recent years academic bodies seem to me to have made an excellent use of their powers of self government, and an excellent use of the money granted them by the State. The university and college authorities understand their own business—a very intricate and delicate affair which it is not easy for outside State Departments or legislators to understand so well. This very important fact is wisely and generously realised by Government, and so long as the State continues its truly liberal policy of subsidizing the universities and yet respecting their independence, all will continue to be well.

CLASSICS IN THE UNIVERSITIES

By T. B. L. Webster

Professor of Greek, University College, London

Periclean Athens and Augustan Rome are the first ideas which the word Classics suggests, but Classics as a name for subjects of research and teaching in the Classics departments of universities may include everything from Minoan Crete to the Empire of Justinian ; it certainly covers the language, literature and art of this period, probably the thought, and sometimes also the history. What portions and what aspects are taught at any given time in any particular university depends on a variety of factors ; the needs of the times, the needs of the students, the traditions, desires, and capacities of the teaching staff. The Cambridge classical tripos is quite different from Greats at Oxford but both have turned out statesmen, administrators, and business men, as well as classical scholars. The two traditions have affected the structure of classical schools in the other universities, which have produced under these and other influences the kind of schools best suited to their own local needs.

Assumptions

Common ground of all honours schools is the insistence on a sound knowledge of the languages and on detailed interpretation of a considerable number of the major works of literature together with some knowledge of history and an opportunity to make a special study of art, thought, language, or institutions. The assumptions underlying all classical honours courses may, I think, be formulated thus: first, classical literature and art contain a rich share of the world's masterpieces, which deserve studying for themselves and with no ulterior motive ; secondly, the classical tradition is an integral part of the Western European tradition, and we must know the various constituent strands, since the adaptation of this tradition to modern needs and the shaping of policy in accordance with it is the prime political function of the university graduate ; thirdly, Graeco-Roman civilisation is directly relevant to-day in spite of the differences in techniques and labour conditions—an obvious example is the story of the Athenian democracy, the material and spiritual conditions which produced it, the difficulties which it encountered, and the solutions which were propounded in the fourth century; but

there are other examples and the choice in any particular university will depend on the orientation of the teachers. My only plea here is that in the honours course whichever period is chosen as relevant should be studied as far as possible in its entirety, and the correlations between literature, art, political, social and economic life should be worked out in as great detail as time and evidence permit.

The fourth assumption, which is different in kind, is that the training so provided is a suitable training for non-academic posts, particularly for the Civil Service and for administrative posts in industry.

The Classics in England

A great Swedish Latinist, speaking to an international conference of classical scholars last summer, quoted the admiration of Wilamowitz for the wide spread of classical knowledge in England. Wilamowitz was thinking probably of the days when classical allusions were customary in the House of Commons. Yet the market for the Penguin *Odyssey* and *Theban Plays of Sophocles*, the interest in Greek and Latin plays produced on the stage or by the B.B.C., the remarkable rise during the last five years in the number of school children taking Greek (which is not like Latin a necessary qualification for entering certain popular non-classical university courses), and the success of extra-mural classes in the classical languages as well as in art, literature, and thought suggest that in England knowledge of the classics is still in some sense a national possession and not the preserve of a few academics in the universities. If my assumptions as to the intrinsic worth, the traditional value, and the present relevance of classical studies are true, the maintenance and strengthening of this position is of some importance, since in these days the maintenance of cultural standards, which was before shared by the church, the aristocracy, and the universities, falls largely on the universities. Classical studies among non-specialists rather than the orientation of Classical Honours Schools or of research are my concern in this article. I am concerned with the extra-mural and intra-mural relations of classical departments, and my own position is my apology if I write mostly of Greek and of the university which I have served for the last seventeen years.

Relations of Classical Departments

There is nothing to be said about the extra-mural relations of classical departments that cannot be said of other arts and some

science subjects. But the classical staff in a grammar school often consists of a single master or mistress and, therefore, sometimes needs encouragement more than the larger staff of more popular subjects. Lectures in schools give this sort of encouragement to the teacher and may stimulate interest among pupils who are not taking classics in their school course ; the same sort of function is performed to a wider public by lectures to local societies, &c. The other extra-mural function of a classical department is to keep teachers and pupils in touch with recent research. If teaching is to remain alive, teachers and pupils must know something of the progress of knowledge, whether new advances are made in France, Germany, Holland, or Scandinavia. The literature of scholarship has become too vast for the teachers to skim themselves, but by sixth form conferences, teachers' courses, lectures, &c., the university can do something to bridge this gap.

By intra-mural relations I mean the services that the classical departments provide for other departments. The extent of these services varies in different universities: for instance, ancient philosophy and ancient history may be taught by the classical departments for the departments of philosophy and history or may be taught by those departments themselves. To argue the merits of the case would go beyond the scope of this article because it would involve arguing for or against the fundamental illogicality of having honours schools partly organised on a cultural basis and partly on a historical basis ; it is, however relevant to demand that, if ancient history and ancient philosophy are taught outside the classics departments, the teachers must themselves be classical scholars and must see classical culture as a whole and not teach ancient history or ancient philosophy out of their cultural context. But the divergency of practice here points to two important objectives which must be the guiding ideas in all intra-mural relations. If the classics teach ancient philosophy, ancient thought will be seen in its cultural context ; if it is taught by the philosophers, they will stress its relevance to other philosophy. These then are the two essentials in courses given for other departments : to give a coherent picture of some phase of classical culture and to see that the knowledge provided is relevant to the student's main studies. The classical teacher has neither the time nor probably the information to point out the cross-connections, but he can see that the emphasis in his course is on material which the student needs to know.

Mastery of Language or Translations ?

How this can be worked out in practice depends not only on the time but also on the equipment of the students. The difficulty of learning a written language is considerable and, therefore, the barrier between the student and comprehension of classical literature is higher than for the student of most modern European languages. This means that in the early stages a disproportionate amount of time has to be spent on language study. The question, therefore, is what can be jettisoned to achieve as far as possible in the time available the double ideal. Is there a point at which the language itself must be jettisoned and can anything worth while be taught without the language ? It is not at all easy to know how to draw the line. We are all acquainted with people who have got great value from translations and talk with authority about the classics, although for one reason or another they have never learnt Greek or Latin. But they are exceptions, and university courses must be designed for the normal run of students.

The argument for having a reading knowledge of Greek or Latin is not only that much of the beauty of any literature is lost in translation but that thought is largely determined by the language which expresses it, and it is impossible to compare in detail the thought of one writer with another without knowing the language in which it is expressed. If translators could be compelled to use standard equivalents to render important abstract words, it might be possible to compare in detail the political thought of Sophocles, Plato, and Aristotle without knowing Greek. But the translators would rightly resist such an attempt since Greek or Latin words do not coincide with English words. They may, therefore, justifiably render the same Greek word by different English words in different passages, but by so doing they conceal the fact that the same Greek word was used and therefore that the passages showed an essential connection of thought marked by the use of a common word, and this is a fact that the serious student needs to know.

Perhaps then we can frame some such criterion as this: if the student's time is so short (say, two hours a week per session or less) that relevancy to his own subject must be the primary consideration, then the language may be jettisoned. A course of this kind may still be of real value: the student of the New Testament, who knows Greek but is often completely ignorant of Latin, derives profit from a short course on the thought and life of the Roman Governors of

the early Christian world; and the student of Racine, who has Latin but no Greek, may derive profit from a short course on Euripides given by a classical scholar (the point of contact here is not style or philosophical terminology but dramatic effect, plot-construction, and character-drawing, which are not language bound). The language may be jettisoned when the student has time to acquire only what is relevant to his own subject and is not working on the detail of the classical subject for itself.

If, however, the student has more time (say 3–4 hours a week per session) but little or no technical equipment when he comes to the university, then a middle way can be found between the traditional course, which is admirable for those who come up with a good knowledge of the language, and Greekless Greek or Latinless Latin. In a course of three hours a week for a session it is possible to spend roughly a third of the time on Greek civilisation, a third on learning the elements of Greek, and a third on studying selections from the tragedians and Plato. The student learns something of Athenian social life, politics, art and literature in the fifth century B.C. and of the fourth century criticisms of Periclean democracy ; he studies some great poetry and prose in the original, and he has a reading knowledge of Greek. Such a course is as a whole of some value in itself ; the student of English, French, or German will thereby understand better the recurrent Greek influence in the thought of the civilisation which is his main object of study ; the historian or philosopher has a coherent and authentic picture of the society in which ideas and institutions of interest to him first arose ; the theologian appreciates the classical background of the Hellenistic world which was the cradle of Christianity. It also forms a basis for further study for students who make Greek an integral part of their course (as, for instance, in Manchester students of English literature may now take Greek instead of Anglo-Saxon) ; further courses may be differently weighted for different types of students; students of modern literature would naturally require wider and deeper study of archaic and classical Greek poetry, historians more Thucydides, Plato, Isocrates and Aristotle, and theologians texts for theology, eschatology, and religious practices in the Hellenistic period. Such a training would be a good preparation for special subject work and even research, particularly in comparative subjects such as the history of tragedy or comedy or the history of political ideas.

Combined Honours Schools

Having done Greats myself, I am a firm believer in Combined Honours Schools, and believe that Greek or Latin can be profitably combined with English, French, History and other subjects. I do not propose however to discuss the classical component here because for practical reasons it must follow the lines of the Classical Honours School. I would, however, maintain that the Classical component must contain both languages ; Greek is the essential background of Roman civilisation without which it cannot be understood and Latin was often the only means of transmitting Greek culture to other civilisations. In Oxford and Cambridge Honour Moderations and the first part of the classical tripos are designed for students with a good technical equipment in both languages and are sometimes taken as a preliminary to a non-classical final school ; in the modern universities it has generally proved more practical to combine one classical language at honours standard with part of another honours school over the whole three-year course ; in such combinations the other classical language must be taken as a subsidiary subject for at least two of the three years. This second pattern encourages the building of bridges between the classical and the modern subject: a technical discussion of Aristotle's *Poetics* among pure classical students is greatly enlivened by the presence of a combined honours student who has worked in the English School on the later development of Aristotle's theories. The general aims of combined honours schools are those that have already been discussed, to make each subject a coherent whole and to see that the portion of the subject selected for emphasis should have some relevancy for the other subject in the combination.

I have written a good deal about technique because I think that at the moment technique needs consideration. Propaganda and apology would be out of place in this journal and are unnecessary in view of the revival of Greek in the schools. The classical departments in universities have to do their share with other Arts departments in insisting on the maintenance of spiritual values and disinterested knowledge ; they have also their task of encouraging teachers in the schools. Their primary task is, of course, research.

SIR FRANKLIN SIBLY, K.B.E., D.Sc., LL.D.
1883-1948

By Sir Hector Hetherington

Vice-Chancellor of the University of Glasgow

Franklin Sibly spent almost all his life south of the latitude of the Upper Thames. At no time had he any considerable capital of physical strength. But he was known and loved throughout the whole system of the British universities, and especially in the critical early years of the war, he was their most powerful and representative spokesman. His withdrawal in 1946 from active service was felt to be a loss not to his own university only, but to all ; and his death is widely mourned.

His first university was Bristol. Then, as a young postgraduate on an 1851 Exhibition, he turned from Physics to Geology, partly under Lapworth at Birmingham. In 1908 he became a Lecturer in Geology at King's College, London. In 1913 he moved to the Chair of Geology at Cardiff ; in 1918 to the same Chair at the then Armstrong College, Newcastle ; thence in 1920 to be the first Principal of the new University College of Swansea. In 1926 he became Principal of the University of London ; and in 1929 he was elected Vice-Chancellor of Reading.

The achievements of his later years have perhaps obscured the high promise of his first service as a practising scientist. He was by instinct at once a naturalist and a systematist, delighting in his subject, in the explorations which were part of his weekly business, and enjoying the open air and the observation of the flora and fauna, the rocks and soils and waters of the surface of the earth. He had a perceptive, quick and cautious mind, a great faculty of luminous and amusing exposition and a devotion which often enough, even in these early days, outran his strength. His professional colleagues have acknowledged his service to their science, especially his papers on Carboniferous Limestones and on the mineral resources of South Wales and the Forest of Dean, some of them the fruit of much arduous government work during the first World War, and his long and vigilant Chairmanship of the Board of the Geological Survey.

In 1916–17 Wales had to cope with a Royal Commission on its university. Sibly's quite exceptional talents for statesmanship and administration brought him at once and almost against his will into a

position of academic leadership. His call to the Principalship of the new college at Swansea was a direct and most successful consequence.

Wales set him problems enough. London in the three years of his Principalship had troubles of its own. Decisions had to be taken on the constitution, finance and central site of the University, and the difficult and complicated negotiations put a great strain on Sibly's strength. His friends had begun to be anxious, and welcomed, as he did himself, the call to Reading, where as second Vice-Chancellor, he had the fortunate task of developing the new University which had come into being as the result of the creative work of W. M. Childs and a remarkable group of colleagues. For seventeen years, in an environment both friendly and congenial, he found a field for the exercise of all his powers. The times did not permit the full realization of the plans which he came to formulate. But under his leadership Reading achieved a strong consolidation, and prepared the way for its development.

With the care of Reading he combined for five years the Chairmanship of the Committee of Vice-Chancellors and Principals—an office fairly exacting in ordinary times, but suddenly, on the outbreak of war, of first-rate importance for the whole British university system. It was a piece of great good luck that at that moment Sibly, living not far from London, could himself intervene in almost all the endless and intricate conversations and negotiations with the Service Departments and the national service authorities. He was a stout, unwavering champion of the rights and independence of the universities ; he knew what they could do and how best they could do it ; and he understood the problems with which the services were faced. Both sides, universities and ministries alike, came speedily to trust his cool, long-headed judgment, his mastery of detail, his candour of mind, his quick, unwounding wit, and his skill in friendly negotiation. It was exhausting and costly work, but Sibly held on until the main issues were fairly settled. For what he did then, every British university is deeply in his debt.

He did much else. The Empire Universities Bureau, the Royal Commission on the University of Durham, the Miners' Welfare Scholarship scheme, the Advisory Council of D.S.I.R., all claimed his service. But Reading was the centre of his intimate thoughts and hopes. He knew himself happy that there he had come to his vocation ; Reading will hold a place in the regard of many in distant Universities because it was home to Franklin Sibly and his wife.

SOME THOUGHTS ON THE CONFERENCES OF THE UNIVERSITIES OF THE EMPIRE

By Sir John Medley

Vice-Chancellor of the University of Melbourne

Most of us, I think, approached the conferences at Bristol and Oxford with feelings of more or less diluted cynicism. We have so many conferences in our ordinary lives and they so seldom produce results which are compatible with the toll upon our time and our tempers which they involve. We were all of us agreeably disappointed. The discussions provided a great deal of valuable information about other people's problems and attitudes which has refreshed our minds and widened our outlook. And the hospitality provided for us, with concomitant opportunities for informal meetings and conversations, has been beyond all praise. Those of us in particular who come from outside Great Britain and realise what trouble and sacrifice is involved these days in providing the material background which can so easily make or mar a large gathering would like to put on record our deep appreciation of all that was done for us by our many hosts.

It is not my purpose to comment in detail upon our proceedings. A full report will be available in due course and it can be left to speak for itself. But it may be useful, whilst our experiences are still fresh, to set down a few impressions which they have left in my mind.

It is a platitude to say that the best and most useful part of a conference is what goes on outside the Council chamber. But it is particularly true of this conference. Our formal meetings were of high standard and none attended them without profit. But after a lapse of twelve years during which many of us had little or no opportunity of a change from our normal environment it was invaluable to meet colleagues face to face and to learn from them more in ten minutes than can be conveyed by a whole covey of letters. This is particularly applicable to the question of short-term inter-university traffic in teachers and research workers. Every university has been discussing it and no university has got very far in its development, though especially for those isolated from the main centres by distance and the expense involved by distance it is

a question of prime importance. Much of the discussion has been muddled by the indiscriminate use of the word "exchange." Opportunities for literal exchange will seldom arise, particularly where senior staff is concerned. It is clear that no general scheme can be evolved. But the bilateral understanding proposed between Oxford and the Australian universities as a result of Dr. Veale's visit in the early part of this year does I think point a way to practical development and I hope that similar agreements may be reached, not only between British and Dominion universites but between Dominion and Colonial universities themselves. The essential factors are that somebody must be found to defray the cost of passages, the sending university must continue payment of salary and the receiving university be prepared to provide a small supplement to salary in return for a limited amount of teaching work. Given these three, there is opportunity for an expansion which will be of great benefit to us all and to the British world at large—and this conference has brought its possibility considerably nearer. Bilateral agreements of this kind are best concluded between people who know one another personally and can correspond at a level which is not purely official. We have all of us made contacts at Bristol and Oxford which we mean to continue—for business as well as for pleasure—and these contacts, if periodically refreshed by other meetings, as is proposed, will in due time have influences of the greatest importance upon the weight and the effectiveness which can be exerted by the universities of the Empire as a whole. Some people still think no doubt that the main difficulty in the way of such development must lie in the necessarily one-sided nature of such traffic. It is easily understood that Australians want to come to Great Britain, but why should the reverse be the case? Here, too, the conference has shed a good deal of light into doubtful places. It is clear that in many parts of the Empire, there are schools both of teaching and research which can rival in equipment and facilities all but the few best in Great Britain. Empire universities need no longer feel that they have little to offer but an interesting experience in a new environment. Such developments as the new National University in Canberra—to mention one with which I happen to be familiar—may well attract research workers of the highest calibre from all over the world and exercise a most important influence upon that decentralization of university effort which is an obvious necessity of the future. The provision of easily interchangeable

superannuation schemes is a factor of considerable importance in this connection which was discussed at the conference to some profit. There are difficulties to be surmounted, but nothing that is insuperable. I feel sure that our deliberations will give a real impetus to the free and frequent two-way traffic in brains which those of us who work in the distant parts of the Empire regard as of prime importance for the benefit of the whole.

Lastly, it may be hoped that as a result of the conference all Dominions will proceed to strengthen the organization of bodies that can speak for their universities as a whole—Vice-Chancellors' Committees or whatever their title may be—and will seriously consider the possibility of perhaps annual conferences on a small scale of representatives of these bodies and of the British committee, in various parts of the Empire. These are days in which we must look forward to an increasing degree of state influence in the academic arena. No member of the conference betrayed serious apprehension of attempts to exercise undue control—indeed our general verdict was that our experiences so far have been singularly fortunate. But the danger is always there, though it may be latent at the moment, and it is clearly very important that effective machinery should be in existence for expressing our united viewpoint, both on this vital problem and upon the many others which closer co-operation between us will bring to light. That it has, I believe, laid a foundation for this closer co-operation will prove to be the main justification for the conference and should be a source of deep satisfaction to those who coped with the manifold troubles of organising it.

THE NATURE AND JUSTIFICATION OF AN "ARTS" EDUCATION

By Louis Arnaud Reid

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Justification of an "Arts" Education

What is the justification of an "arts" education? We are often told[1] that the education of scientists should be broader and more liberal; and an important part of that liberal education is assumed to be some study of the "humanities". Or (as in the Barlow Report) it is said that a balancing *number* of arts students must be produced to counterweigh the multiplying scientists. But why?

These things are said sincerely as a rule, politely and with conventional conviction, but without passion and for reasons unexamined. It is necessary, however, and it will become so increasingly, to justify (and possibly improve) arts education in view of the growing dependence of universities upon public funds and popular votes, the present diminishing proportion (in relation to science and technology) of liberally educated persons, the enormously increased prestige of science and technology in a desperately practical world, and the correspondingly diminished prestige of an education which seems to many ornamental and remote, a luxury giving no very tangible returns, except to teachers who will in turn teach with no very clear purpose. To the already liberally educated, the value of liberal education is assumed, is so obvious that it needs no defence; the converted do not need to be persuaded. But to the unconverted it is difficult to know what to say. This article is not a tract addressed to the unconverted, but a general challenge to reflect upon the nature of arts education.

I shall begin by affirming two dogmas.

First: arts education, like all true education, is in the widest sense of the word, *vocational*. I do not mean directly professional or occupational, which is the narrower and more usual sense, but vocational in that it is education for living, acting, doing, as well as for knowing, thinking, enjoying. Every man, says this dogma (in the end probably a religious one), has a vocation *as man* to live and come to terms not only with nature and his fellows, but with a

[1] *e.g.*, In Reports such as the Percy, the Barlow and the Cambridge University Report "University Men in Business".

mysterious universe. And the ultimate function of an arts education is to increase man's capacity to respond and to live as he ought, in himself, in his immediate society, in the world and in the universe. (And here, though living and action is being stressed, there is no denial that the pursuit of arts studies and enjoyment are in themselves an important part of living.)

Second: this increase of capacity to respond depends upon increase of *awareness and understanding*—of man himself in his many-sided activities (as in archeology, history, literature and the arts, morals, politics . . .) and of the world he lives in, as described and explained by the sciences,[1] and as interpreted by philosophy and religion.

All awareness and understanding, both in the arts and the sciences, requires a measure of *detachment* from action and the need of it. But the detachment of arts study and its relation to its opposite, attachment, is specially interesting, throwing light upon the nature of the humanities. It stands in contrast to the detachment of technology, which is a temporary postponement of practical application, and the detachment of pure science or mathematics which (however initiated by human need and however useful) is relatively complete. For arts study, though as study it must be detached from the immediate need to act and to change things, is not true to itself if it is not attached at least in imagination, sympathy, intuition, thought, to actual concrete human happenings of some sort. In pure science, though there is, of course, the play of deduction and induction, and general hypothesis is related to observed fact, the main field of interest may not improperly be called theoretic and conceptual. Experiment and observation of events, though intensely interesting, are interesting in the light of, and as a check upon, detached contemplative thinking. In arts studies, on the other hand, as I shall show—in history, in literature and drama, in the visual arts—awareness and understanding demand what Americans call "involvement," an intuitive, personal, imaginative, sometimes passionate entering in to what is being understood.

The humanities are all of a piece with concrete living. Though the student must (as student) be free to be detached from the inchoate mass and hurly-burly of everyday experience, his freedom is not, like that of the pure scientists, freedom of retreat into a world which is highly purified because highly selected in the light of

[1] The question of what *kind* of science teaching the arts man should have I do not discuss. It is important.

clearly definable concepts. It is a freedom from one sort of attachment—to the everyday mix-up of the trivial and insignificant with the important—for the exercise of another, a discriminating attachment of what is significant and important in human experience, often in its great and high moments.

Importance of Detached Study

Detached study needs defence, or at least should be defensible; and defence is always made in terms of values assumed to be valid. The defence of technology is obvious: it serves practical ends (though the value of the desirableness of these is not always sufficiently criticised). Pure science, too, is often popularly defended in the same way. But a second line of defence is to say that pure science and pure arts are self-justified because one enjoys them, because they are knowledge for knowledge's sake, and that this is just one of the fundamental needs of man and a good way of living.

It may well be so; but the statement needs to be qualified. 'Knowledge for knowledge's sake' sounds noble, but it is just possible that some pursuit of knowledge is bad and certain that some is trivial ('How many solicitors wear spats?'). And enjoyment in itself justifies nothing. The complete leisure and detachment from doing necessary for enjoyment of knowledge, is justifiable only if the knowledge is significant, serious, *important*.

"Importance", of which Whitehead and others have written, is difficult to pin down and it may be indefinable. Yet enlightened judgment does recognise it. Important things are symbolic of a context and meaning much larger than themselves, they make a difference to, and illuminate, a wide range of ideas, compelling us to revise our ideas. G. H. Hardy speaks[1] of the "seriousness" of some mathematical theorems in contrast to the "triviality" of chess problems. "A mathematical idea is significant if it can be connected in a natural and illuminating way, with a large complex of other mathematical ideas" and is likely to lead to important advances. In the humanities, importance, though less abstractly intellectual, and of the heart as well as the head, brings perspective, and helps to illuminate the "piece of work" that is man. Importance does *not* mean usefulness in the ordinary sense of that word, nor immediate contemporary relevance, though sometimes it is both useful and contemporary.

[1] The reference to *A Mathematicians' Apology* is taken from an article by Professor Emmet "On the Idea of Importance". *Philosophy* XXI, No. 80.

Arts subjects must be justified to the pupil (whether at school or university) by their importance. This is done in the first instance by infection of the teacher's own enthusiasm with his subject. But enthusiasm may miss the mark if the seed of pleasure and delight is not implanted in that part of the pupil's mind which is already fertile and stirring. Such a sowing demands sensitiveness, sympathy, some affection, a kind of compassion for his questing mind, which is terribly difficult with large classes, and not over-common even when opportunities are favourable. In far too much arts lecturing there is a great gulf fixed between the dais and the students' desks. There is also a common but usually unrecognized assumption that the general student, and even the honours student, must be taught and disciplined as though he is to become a high specialist. But the real specialist is rare and needs special, perhaps post-graduate, education. The majority are packing for a journey they will never take, and the enthusiasm which should inspire and educate, imposing its own inner discipline, is inhibited by an artificial discipline, and a childish attitude to the subject and the teacher.

Understanding of the Individual

The arts student, then, must feel, and see, that his subject is important, if study is to educate him. What we must now ask, more particularly, is "What kind of importance has arts study, and how is importance realised in it?" My answer in brief is that arts education trains in the understanding of the individual, and that significance and importance comes to be known chiefly in appreciating and understanding individuals (*e.g.*, persons, poems) and individual situations (*e.g.*, historical ones).

This may best be illustrated by contrast. Pure science is ultimately concerned, *not* with unique and unrepeatable individuals, but with general concepts, abstract ideas, universals ; and with particular instances in so far as these are involved in the discovery and verification and application of generalizations. The mathematical equation is a symbol of a certain scientific ideal, and the physicist's main interest lies here and not, finally, in a care for the precious individuality of the instance before him in his laboratory, for there are many instances and one may be as good as another.* The technologist,

* The contrast here is rough and broad. I do not wish to deny that science and mathematics have their æsthetic aspect, and that conceptual systems can have—in some sense—æsthetic individuality. Science and mathematics can certainly be "humane."

again, must understand general scientific laws, principles, formulæ, so that he may intelligently apply them to instances which repeat themselves perhaps indefinitely. His formulæ are very precise usually mathematically so, they are precisely determined before he gets to work, and they can be applied precisely by rule with, as everyone knows, enormous success.

The opposite is true of arts studies and their application. If the humanities can be applied, are a part of good training for "life", for social and industrial service, politics, administration, for stiuations in which personal relations are involved (and, how far can technologists or even pure scientists avoid them?), it is not because, like technology, they can provide precise predetermined formulæ beforehand, but because in the main arts studies train the student in critical appreciation of the individuality of the individual situation[1] and in thinking of its significance concretely. In human situations there are no absolutely fixed formulæ.

It is, of course, a question of emphasis. Thinking is relating; relating employs general ideas. Merely to stare at this or that is not to think. So we have theories of poetry, drama, history, politics. . . . Yet the general thinking of these subjects is very different from abstract scientific thinking, and the stress is upon the individual. This poem is a "sonnet," this play is "tragedy," or "classic" or "romantic," this policy is of "right" or "left". But the ingredience or " embodiment" of the universal in the individual is (probably—I cannot argue it here) quite a different sort of relationship from that of the abstract universal to its instance; and whereas in science and applied science the instance is conceived as subservient to the general law which can be clearly formulated in and by itself, in the humanities the general laws are only rough generalizations and the general is understood only through (as in history?) or even in (as in a tragedy?) the individual, respected as individual. This is seen perhaps most clearly of all in personal relations. One comes face to face with irreplaceable and strictly unrepeatable individual personality. Every person, true, has " humanity". But humanity can only be conceived through constant warm lively individual communication and imagination, and never as a pure clear detached concept. It is the greatest disaster of the age that all over Europe the person has become a mere abstract unit to which the formulæ of

[1] Philosophy, I think, is not an exception to this: but its place in arts education is special (and specially important) and I cannot deal with it here.

doctrinaire political "science" is ruthlessly applied. We are not immune from such a danger here. When science forgets that its unique and legitimate function is a self-limited one, when science is exalted above the proper study and care of man, or usurps its place, or when technocracy is king, and when this bastard philosophy is politically legitimized, it is not too much to say that everything precious in the life of man, and human life itself, is doomed.

Usefulness of "Arts" Education

The peculiar genius of arts, then, is the education of a certain quality of judging the individual, inducing at once appreciation and critical understanding—an understanding, one would add, not properly matured without some philosophy. It can only do this if it is completely free in its education to dwell at leisure on its own proper appreciations and enjoyments, free from the constraints of vulgar demands for immediate usefulness. To enjoy important history, or drama, or music is self-justifying; and for some it is a vocation to spend their lives with these things and to communicate them to other people. Yet such "enjoyments" are useful too, though not in the popular sense. Usefulness, in the vulgar mind, is generally conceived of vaguely in terms of the formulæ of applied science, of weapons already shaped for already defined repetitive jobs—which is here just the wrong conception. The efficiency of an arts education is in what it does to the soul of a man, in its production of a habit of enlightened intuitive awareness and wisdom, so that he can come to the new—in various fields of human practice—with respect, with flexibility of mind, with sense of proportion and with generalization in its proper place.

Such qualities, we said, are difficult to convey to those who do not already know them. Unlike the products of technological science, the intrinsic and instrumental values of arts education are intangible and imponderable. In a more leisured and aristocratic age they could be appreciated as an important kind of expertness, whereas to-day the democratic and utilitarian man is inclined to categorize the "liberally"—as opposed to the scientifically and technologically—trained as vague amateurs, effete luxuries. There is plenty of evidence that "arts" is despised in the schools and homes of the people—and this is at present growing worse with the increase of ignorance through early and exclusive specialization in science, on the part of more and more pupils.

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Some educational reforms are in prospect. Nevertheless this ignorance, jealousy, contempt, myopic utilitarianism, is a real and deadly danger. In Europe the flood-tide of impersonalism is rising everywhere. By good fortune—or the mercy of God—we stand above it for the moment though we can feel its poisonous stinging spray.

We still remember, in our idler moments, that it was individual men, not the machine or the mass-mind who gave Britain her character and her leadership. And it is still not impossible that we, with our opportunities, may do something to save ourselves and the world (if any world survives to be saved) from final technocracy and the annihilation of man.

It would be absurd to suggest, of course, that arts study in a university will of itself produce personalities and leadership, initiative and good judgment; and only some members of any university can participate much in it. These qualities must be engendered far earlier in the home and at school; and they are built up through a lifetime and by inherited tradition. They require firm moral beliefs and, some would say, above all true religion. On its purely academic side, arts education is bound to be largely literary, and, though book-learning, the great mine of the humanities, can stir endlessly the intellect and the imagination, the proper study of man includes encounter, encounter with men of all kinds, the making of actual decisions, the taking of actual initiative, as well as humility before individual and social authority. The Cambridge Report is so insistent on this that several writers say that it doesn't matter in the least what you study, so long as you have had the social education of living in Cambridge! (By contrast how little some of the provincial universities can offer, and how pathetic their faith in the all-saving grace of the hostel!)

The importance of moral and social education must be admitted and affirmed. Yet without a sincere and lively respect for and understanding of what the reflective study of the humanities can do to a person, and so to his seeing and judging and sense of proportion, and so to his action, and without a constant re-thinking of the ways of education in the humanities to this end, we shall lose our vision as a people and, as a great people, surely perish, destroying more than ourselves in the process. This, being a deduction from an hypothesis, is not a prophecy. But it is certainly not, on the other hand, empty rhetoric.

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Professor Alföldi then goes on to show the consequences of Constantine's conversion—his growing favour to the Christian Church; his turning from paganism; in the end, his deliberate intention of destroying pagan worship. At the same time, we are helped to realize the forces that rallied to the defence of the old religion—especially in the senatorial aristocracy of Rome, which now gave a religious colouring to its deep-rooted local patriotism. In their battle against the all-powerful Emperor the pagans had to use mainly indirect means. Literature and art were called in to aid, and it is to their employment in the service of dying paganism that we owe a great deal of our knowledge of antiquity.

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REVIEWS

THE PROBLEM FACING BRITISH UNIVERSITIES. (*Oxford University Press.* 5/-.)

In its report, "The Problem Facing British Universities," the Education Sub-Committee, set up by Nuffield College, has presented as complete a survey of the chief demands made on the universities as can be made, when such a survey is based on claims expressed by the organised professions and the other regular occupations which rely on university graduates for recruitment. Beyond the statistical data so derived there still remains the task of discovering not only the claims of the professions which must inevitably be based on the *status quo*, but the probable future demands based on the social and economic needs of the country for a supply of men and women with a broad general education and with specialised training. Professions which are now entered either through university training or through apprenticeship and examinations might be encouraged to require university training for all entrants.

From the statistical point of view the Committee may be correct in its statement that "it is impossible to forecast what proportion of business men, journalists, artists of various kinds, and members of many other occupations will be drawn from universities". Nevertheless as a problem facing British universities the Committee might have considered whether university training for these and other professions which have not yet entered the university field is desirable or not. What would have been the status of British universities to-day, if in 1900 they had relied on the preceding fifty years as a guide to their future?

If as is pointed out by the Committee in its "Conclusions" (Chapter IX) the pressure of numbers continues, "permanent arrangements will then be necessary to replace the improvisations to which the universities have been forced to resort". The time to consider what these arrangements should be now, and the fundamental question with which to start is whether the universities should meet the expanding current demands or should encourage new demands to which the national needs for trained intelligence point and which they can meet within the framework of a concept of university education suited to modern conditions.

For it is not enough to consider the problem facing British universities in terms of the concept of university education current

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up to the present. The problem must be considered in terms of the best in the traditional idea of a university as well as of the degree to which the universities can help to raise the general level of education and contribute to the social and economic progress of the nation. More is needed than a survey of the bare data; progress requires some play of the imagination which need not be Utopian but which can be guided by an analysis of the gradually broadening range of studies which not so many years ago would not have been considered as fit for a place in the university curriculum.

There are many definitions of the function of university education which have been repeated so glibly and so frequently that no one ever stops to enquire whether they have any validity. On this question of entry it is assumed that the holder of a Higher School Certificate is *ipso facto* competent to undertake university studies, but whether this assumption is borne out by the results and whether a third or fourth class degree is a satisfactory measure of success is not considered. Efforts are made to distinguish between the work of a university and a college of technology, but the fact is disregarded that a large majority of students seek a university education to improve their occupational status and chances of employment.

The Committee did not go further than analyse the problem facing British universities and that it did with great competence, notably in the analysis of the new demands which inevitably point to an expansion of the provision of university education either in existing or in newly created universities. Equally valuable is the analysis of the long-term problem. But the Committee stopped with the analysis and did not proceed to offer any constructive suggestions. Having presented the bare data and the detailed analysis of the problem the Committee was apparently content to leave suggestions for the permanent arrangements for the future of university education to another agency. Such an agency, if created, will find in this report a start at any rate for the development of a constructive plan on which the future of the universities will be charted.

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THE EDUCATION AND TRAINING OF TECHNOLOGISTS. (*Institute of Physics, March*, 1948.)

This Report has been prepared by the Education Committee of the Institute of Physics and represents a very important statement of policy on the education and training of technologists. The need for increased and improved facilities for higher technological education is accepted, and the Report asserts "that the quality and type of technological training at present available are suitable neither for the needs of industry nor for the latent abilities of potential students".

After sufficiently defining the function of a technologist in industry, the Report comments adversely on some suggestions which have been devised as a short-term treatment of the problem and presses strongly for the acceptance of certain propositions which are held to be essential if success is to be achieved. The Report deals with these propositions under the headings of (a) Function and Scope of Colleges, (b) Government and Finance, (c) Staffing, (d) Courses and Awards. Perhaps the most important proposition may be stated in the words of the report, viz.:—

> "To achieve the purpose of providing industry with a supply of highly trained technologists, we believe that, notwithstanding the technological departments which now exist in universities, there must be brought into existence colleges which shall have as their functions the teaching of technological subjects to the highest level and the prosecution of research on technological methods and processes".

It is from this view that the remaining recommendations naturally follow, including as they do the development by colleges of "a national and international reputation", a scale and quality of staffing not inferior to that of comparable institutions, a system of government and finance which "will ensure to the colleges an autonomy equal to that of the universities and the establishment of graduate and postgraduate awards, degrees and diplomas, whether these be under some national jurisdiction or, as the Report prefers, in the hands of the colleges individually on university lines of procedure".

The Report also stresses the vital importance of research as an essential function of the colleges, and points out that this element cannot be omitted if the colleges are to be what the authors of the Report desire. Comment is also made on the part which industry must play in the new colleges, both in participating in government and advice as well as in helping with the provision of equipment and the like.

If this Report be compared with the Percy Report, it is clear that the physicists have come down decisively in favour of the more radical of the proposals which the Percy Committee presented, and the authors are to be congratulated on the clarity of their arguments and conclusions. It must, however, be said that when the Report says in the passage quoted above "notwithstanding the technological departments which now exist in universities", it is perhaps implying that the problem is simpler than is really the case.

The German method of providing higher technological education was related to the fact that the universities did not provide technological courses.

It is to be hoped that this short Report, which is one of the best statements of the case which we have read, will be studied by all who are concerned with this important national problem.

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UNIVERSITIES AND THEIR PROBLEMS. (*By S. R. Dongerkery. Hind Kitabs Ltd., Bombay. 6 rupees*)

This book is the outcome of a very long experience of university administration and teaching, and is a lucid and comprehensive survey of problems confronting the Universities of India and Pakistan. These are significantly related to similar problems in the universities of Europe and America consequent on the growth of scientific enquiry and the economic and social changes that have ensued. The many problems with which Mr. Dongerkery deals are for him aspects of one which is central and fundamental. He is convinced that universities, whether ancient or modern, cannot be understood save in their relation to the social life of the nations to which they belong. Until the Middle Ages religion played a most important part in the birth and growth of universities; but in modern universities science has become the dominant influence, and the change has been so complete that "general culture",which mediæval universities assumed would furnish unerring guidance to man, is in danger of being excluded from any effective place in university teaching. If universities are to continue to disseminate culture it is necessary to cry a halt to the break-neck speed at which specialisation is proceeding and to save as much as possible of the ancient ideal of a liberal education.

All interested in university education must recognise the importance of this problem and should be grateful to Mr. Dongerkery for the thoughtful manner in which he has discussed its implications for the universities of India and Pakistan. In his opinion, to provide university education for the very large number of students in India and Pakistan, both "affiliating" and "residential and teaching" universities are necessary. Affiliating universities should make provision for all branches of study, but residential universities should restrict teaching to special branches of learning and science for which they are adequately equipped. It is to this type of university that Mr. Dongerkery looks for the solution of his problem. Universities providing specialised teaching and research in pure and applied science and technology would have irresistible claims to the financial support of the State, and if provided with the necessary funds would, he hopes, raise the standard of teaching and research in the specialised departments to that of the great university centres in other parts of the world. At the same time he would insist that these universities retain complete autonomy and freedom, and that research workers do not become subservient either to the State or to controllers of great industries.

Among the proposals made by the author we mention three. First, he emphasises the need for preserving the intimate personal relations between teacher and student which was so vital a part of higher teaching in ancient India, and which can be fostered in residential universities especially where there is a tutorial system such as that practised in the great universities of Britain. Secondly, he insists that specialised studies should be organised in such a manner as to ensure constant awareness of their context in wider systems of knowledge, and insight into the fundamental principles that pervade them. Thirdly, every student taking a specialised course in a residential university should possess knowledge of his classical language (Sanskrit, Arabic, or Persian), and of the spiritual and cultural tradition it enshrines. He holds that in this way the student's outlook would be enlarged and that he would be led to a

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truer sense of his function in the community. True appreciation of the implications for human welfare of specialised enquiries is in itself a cultural influence.

G. H. LANGLEY.

A HANDBOOK OF SOCIOLOGY. (*William F. Ogburn and Meyor F. Nimkoff. London*, 1947, *Kegan Paul, Trench, Trubner & Co., Ltd.* 25/-)

This is an American work which purports to give a comprehensive survey of the whole field of sociology and which is designed to meet the needs not only of students in the social sciences but also those of numbers of the teaching, legal and medical profession, clergy and social workers. It has been curiously adapted to the British market by a process of "salting" the text with British examples and by substituting "Selected Readings" for a bibliography at the end of each chapter. This allows the editor to introduce what sometimes appears rather like advertisements for issued and forthcoming volumes in the library of which this work is a part.

A volume of this kind is difficult to criticise for its field is so wide that it is hardly possible that any section of the work will be wholly satisfactory. On the other hand there is a great need for such a general review, particularly one which is based on empirical research and is not a philosophical interpretation of the world as it appears from the professorial armchair.

The authors consider that the social life of man is a product of the interplay of natural environment, social heritage, heredity and the group and they attempt to discuss the problem "Can we control . . . changes in the social heritage". They thus attempt to present sociology as a science not only to discover knowledge but in order that as citizens we may "put this knowledge to work for needs we consider desirable".

The work is made up of seven parts in which these factors are discussed in relation to the development of social institutions and social change.

The section on culture is brief and follows on familiar lines as does the discussion of biological factors. In the sections on group and personality, culture and personality and personality disorganisation, the authors are able to draw on much original American research and the studies build up towards an interesting, if not altogether completely organised picture of group life. It is perhaps a little embarrassing to the reader who has his mind fixed on settlements in the hollows in the Blue Ridge Mountains of Virginia or in the problem areas of Chicago, to adjust to the sudden appearance of "an individual walking in Piccadilly" where the editor has felt that a local example would help the good work.

The section on social institutions is perhaps the weakest, no doubt because this is a field in which work is still at a very primitive level. The section proceeds by a discussion of the organisation of society in social institutions and then a discussion on economic institutions, governmental institutions, religious institutions, the family and then concludes by a discussion of the inter-relationship of institutions. The placing of the family so late in the discussion makes for difficulties and the discussion of all social institutions is formal and somewhat

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unreal. The discussion of governmental institutions where it touches on politics tends to be rather naïve.

The authors' study of social change is interesting and enlightening. This is a field in which far too little work has been done and the authors show very clearly the social factors which are operating against progress. The social effects of inventions are discussed and a field for research into the influence of technology on social life and social institutions is outlined. This section concludes with a discussion of the adjustment of man and culture to social change, but does not deal with the ultimate problem which is found in social relations at the inter-personal level. This is perhaps the weakness which makes the whole discussion of institutions unreal and is to be regretted since some progress has been made in this study by the "sociometry school" in the United States who are not mentioned at any point.

For its purpose, this work is fairly satisfactory. It is easy to read, even at times entertaining, but requires to be supplemented by the teacher if the student is to appreciate its contents. It would have been perhaps better to have published the work in its original American form with perhaps occasional notes to explain special American situations or the use of particular words (the reviewer is still in some doubt as to what a "plough sulky" is) rather than to have doctored it with English material in order to make it acceptable to the British reader.

DENNIS CHAPMAN.

THE HANDBOOK OF ADULT EDUCATION IN THE UNITED STATES. (*Published by the Institute of Adult Education, 525 West 120 Street, New York. Teachers' College, Columbia University. $5 in the U.S. and territorial possession. $5.50 in Canada. $6 elsewhere.*)

This most comprehensive volume deals with nearly every aspect of adult education in the United States. The chapters which will be of most interest to readers of this journal are those relating to that side of adult education underaken by universities.

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While the Tutorial Class appears to be still unknown, an interesting development is that many university extension courses are offered as equivalent to parts of degree courses, corresponding in this respect to the external diplomas and degrees of London University. Such courses deal not only with academic, commercial and technical subjects, but also cover training for various forms of professions such as teaching, social service, literature and art. Again, like our own universities, various methods of informal education are sometimes also offered for people of lower educational attainments. A welcome feature of American adult education is the recognition of the need, perhaps not sufficiently recognised here, of training for teaching in this field.

E. M. H.

Printed by Harrison & Sons Ltd., London, Hayes, Middlesex, and High Wycombe, Bucks.